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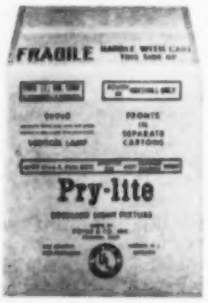

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p/a newsletter

October 1953

Total construction figures for 1953 will show a rise of 6% over 1952, to $34⅔ billions. Private residential work will show a dollar gain, because of large number of '52 starts finished in '53. Private industrial, farm, and hospital building will decline; commercial work will show sharpest increase.

Speculative houses—new starts—are falling off at present time. Preliminary reports coming in on P/A's business forecast for '54 indicate some interesting readjustments in other building types, which will be documented later. Strikes, such as by truck drivers in New York, have slowed up construction sporadically, but in general the boom still continues. No one seems to wonder if design quality and low building standards may not be accounting for much of the slack in ready-built houses. Customers are learning what makes a good house, and sales resistance is stiffening.

Home builders and mortgage lenders are near a falling-out over the present "tight money" situation. Builders, wanting more mortgage money available, had gone along with bankers' demand for higher interest rates and liberal discounts. Now suddenly they realize that buyers object to high rates, refuse to pay extra costs involved in "discounts" (resale of mortgages at a loss), making it necessary for the builder to take up discount costs. Since, on a 4½% mortgage bought at 92 cents on the dollar, bank gets about 5.36%, builder has to cut into his profits, and buyer pays high monthly rate. All suddenly discover that nothing has been solved, except for the bank.

Loose talk about "decentralization trends" is disproved every time real figures are issued. Urban Land Institute survey shows that 2/3 of population in U. S. today is urban, with ½ nation's people living in centers of more than 50,000 population. Greatest growth is in suburban fringe areas, which still contain less than half as many people as corporate municipalities. Cities still grow, at slower rate than formerly and in an irregular pattern—but they grow.

Frightening thought is that while 21 million people live in suburbs, a tenth of that number live in trailers. Problems of this semimobile population—taxation, schools, health and fire protection, mail deliveries, and so on are puzzling many cities. Many of these people are good citizens and their average income is $1000 above the national average. Only 1%, apparently, are vacationists.

CIAM (Congrès Internationaux d'Architecture Moderne) reports a successful meeting this year in Provence, France. More than 300 from 31 countries attended, and 36 exhibits were presented by member groups. Final meeting was held on the roof of Le Corbusier's controversial Unite d'Habitation in Marseilles.

Exhibit pavilion, to house show of Frank Lloyd Wright's work which has been traveling for last several years, will be erected in New York on site of Guggenheim Museum (Wright job held up by building code difficulties). Pavilion will be built by David Henken, Wright's ex-student, two of whose houses are illustrated in this issue of P/A.

Smith, Hinchman & Grylls, Detroit architects, have established six scholarships at the U. of Michigan, beginning with the '54-'55 term.

Turn page for WASHINGTON PERSPECTIVE

PROGRESSIVE ARCHITECTURE published monthly by REINHOLD PUBLISHING CORPORATION, 330 West 42nd Street, New York 36, N. Y. Ralph W. Reinhold, Chairman of the Board; Philip H. Hubbard, President and Treasurer; Fred P. Peters, Vice President and Secretary; Gilbert E. Cochran, H. Burton Lowe, Merald F. Lue, William P. Winsor, Vice Presidents; Kathleen Starke, Assistant Treasurer. Executive and Editorial offices: 330 W. 42nd St., New York 36, N. Y. Subscriptions payable in advance. Subscription prices to those who, by title, are *architects, engineers, specification writers, designers or draftsmen, or employes of architectural and engineering firms*, and to government departments, trade associations, members of the armed forces, college libraries, students, publishers, advertisers, prospective advertisers and their employes—$5.00 for one year, $8.00 for two years, $10.00 for three years. Above prices are applicable in U. S., U. S. Possessions and Canada. Latin America and Philippine Republic—$10.00 for one year, $16.00 for two years, $20.00 for three years. All other foreign subscriptions—$15.00 for one year, $25.00 for two years, $30.00 for three years. Single copy—$1.00, special issues—$2.00 per copy. Printed by Publishers Printing Co., New York, N. Y. Copyright 1953, Reinhold Publishing Corp. Trade Mark Reg. All rights reserved. Re-entered as Second Class Matter September 21, 1951, at the Post Office at New York, N. Y., under the Act of March 3, 1879. Volume XXXIV, No. 10, October, 1953. In Art Index.

ABP ABC

newsletter

Frederick Gutheim

Washington Perspective

Last month's report of the Commission of Fine Arts—"Art and Government"—marked a break with the judicial position this Federal advisory body has consistently assumed during the 43 years of its existence. The meat of the report is the testimony, chiefly by Federal officials, given before the Commission in hearings conducted two years ago, and it is an eloquent reminder of bureaucratic ignorance, timidity, and even hostility to art. If the Commission's present disposition to question departmental views and policies receives the measure of support from professional groups and the public to which it is entitled, it may be that this body will take a more aggressive position vis a vis other Federal departments, in support of what it believes to be good art and architecture. Certainly the time to affect design and to give really useful advice is at the beginning of a project, and not after drawings have been completed. How to do this without assuming a dictatorial position —without the "Ministry of Fine Arts approach" which the Commission's report rightly disavows—is the problem. The answer, in a word, is education. An encouraging amount of enthusiasm has been stimulated by the report, which leads one to suppose there must be a large reservoir of good will for the Commission to draw upon, and a prestige that ought to impress even a disinterested politician. The Commission, after all, is composed of first-raters; Hudnut and Belluschi are two of its leading figures. It is disinterested as well as expert. And it is trying to mobilize support for a more positive appreciation of art and architecture, as such, than we have seen for decades.

News that the Soviet government had mastered the technical problems of producing the hydrogen bomb was variously received in Washington—depending upon who had access to what classified information. The restrictions on information of this sort produce an intellectual miasma which fogs the whole civil defense dilemma. Whether it is the architect who wants and can't get information that will allow him to design buildings with a reasonable degree of structural security against blast, or his client who merely wants a better general idea of what weight to give such factors—both are in the same boat. And squeezed in with them is the average American family, trying to decide whether to spend $150 on building and equipping a home-made bomb shelter or to use it to buy a better car in which to take to the woods. Some important changes are now shaping up in civil defense. The reorganized Office of Defense Mobilization is working more effectively to promote industry plans for atomic defense, government dispersal programs, and physical security measures of all sorts. (Indeed, this appears to be the emerging "strong staff" pattern of the new Administration—an Executive Office of the President, stronger in its influence over such line agencies as the Federal Civil Defense Administration.) But the Government is still caught in the squeeze between a public apathy engendered by its own policy of secrecy in defense matters, and the disinclination of Congress to appropriate for a broad civil defense program. These difficulties were brilliantly analyzed and a concrete program to meet them was formulated in the recent "Project East River Report." Prepared under the direction of New York Life's vice-president Otto Nelson, this estimate of the civil defense task has yet failed to win recognition or sponsorship from either the President or Congress. Its major conclusion is that something can and should be done to organize our defense against attack with atomic weapons —chiefly by improving the warning system to increase the "lead time" in which to reach shelters and take defense measures; and by the reduction of urban vulnerability. The project was well integrated with a companion study, "Project Lincoln," also virtually unknown to the public save through a brilliant series of newspaper articles prepared by the Alsop brothers. "Project Lincoln" outlined highly advanced measures for detection and interception of attacking planes and missiles, which would greatly reduce the total impact of attack. Both of these reports should be published in a form which would make them accessible to a wider public. Some member of Congress could make a fast reputation by sponsoring such a report. Until it is generally known (a) that the enemy can deliver knockout blows, and (b) that defense measures are possible, the best intentions of the Administration to stimulate a realistic defense program will get nowhere.

Some of the Eisenhower Administration's budget and public-debt problems could be solved if relatively simple and long-overdue budgetary reforms were adopted. The one that affects building the most, of course, is the separation of capital outlay from operating costs. No private business would think of lumping its capital investments with its running expenses. But the Federal budget makes no distinction between the hundreds of millions of dollars the public has invested in a productive long-term plan—let's say the TVA, or the dams of the Reclamation Service—and the millions it shells out annually to watchmen and elevator operators. B. Ruml, ancient and tireless warrior against fiscal stupidity, is pointing again to such needed reforms. He proposes a cut of $12 billions in the present budget format, one-third of which is represented by putting public works programs on a self-liquidating basis. Some will object that this is merely fiscal semantics. The fact remains that Federal Building projects of all sorts will be jeopardized by a penny-wise economy that considers only initial costs and current budgetary expenditures. Enlightened and sustained support by architects of Ruml's proposal would be in their own interest, as well as desirable for the public as a whole.

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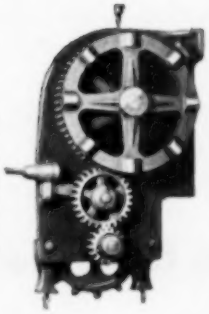

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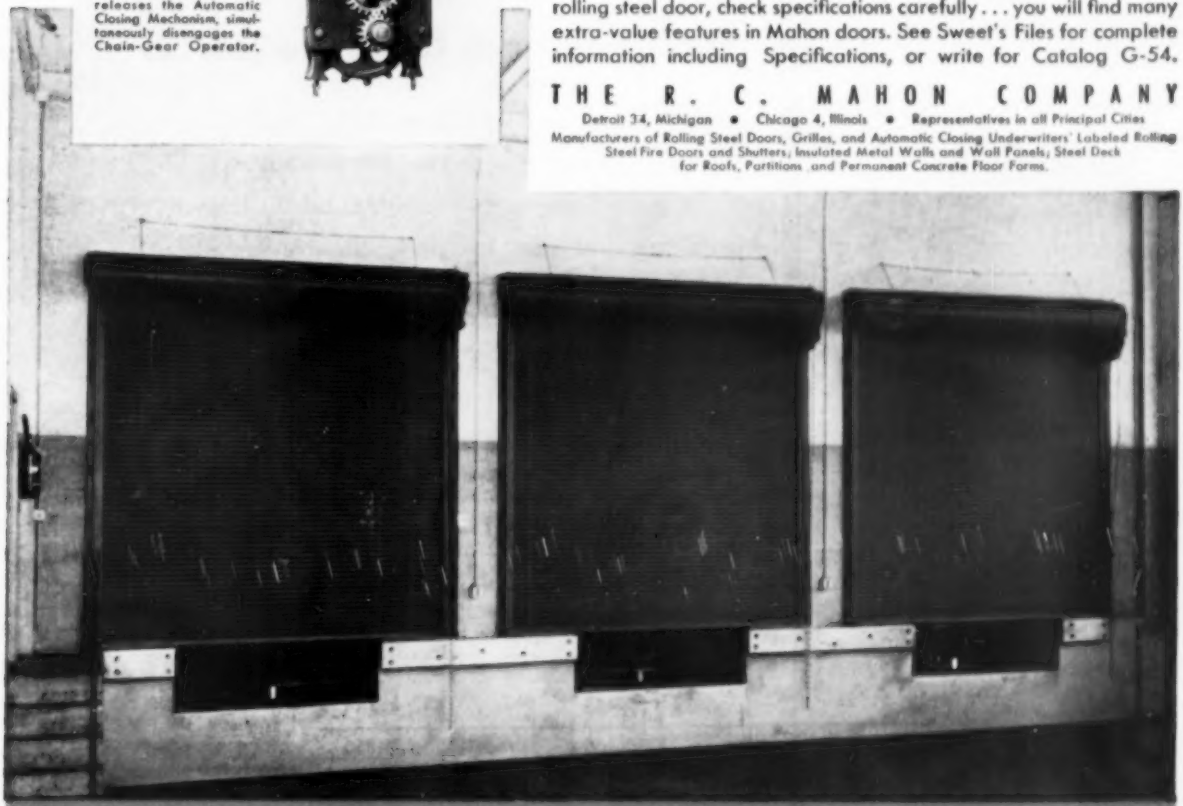

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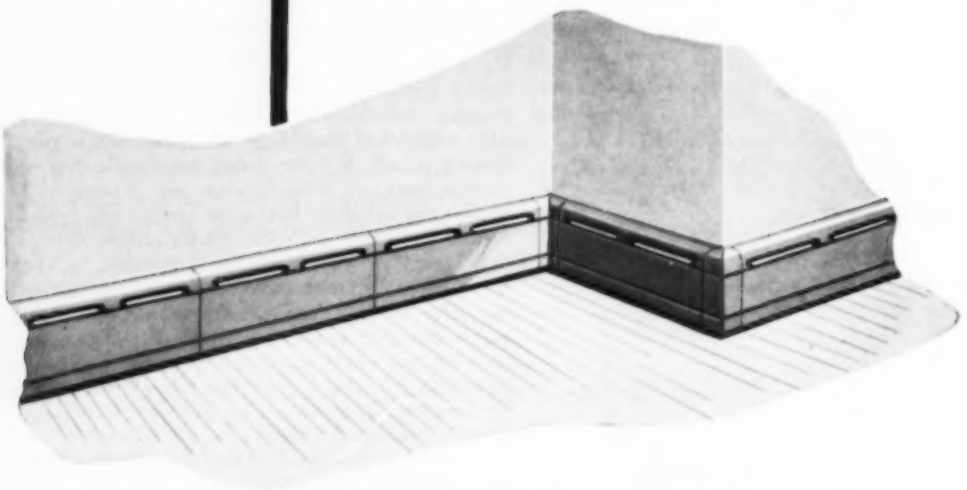

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PROGRESSIVE ARCHITECTURE

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another p/a "first" welcomed

lucid insight

Dear Editor: I have read Fritz Gutheim's first Newsletter and my immediate reaction is that it is comforting to have him remain in a service-giving capacity in Washington and I look forward to being one of the lucky recipients of his lucid insight.

My personal feelings with reference to the present Administration in Washington are a mixture of apprehension, fear, and doubt. The precious money policy will inevitably hit the Architect first and hardest.

Small as it is, the Architectural Profession may be brought to the alert, if properly informed. This will be Gutheim's big job ahead. A. L. AYDELOTT
Memphis, Tenn.

a needed analysis

Dear Editor: I think it is wonderful that you were able to get Gutheim to work with you, as the majority of us out here feel that he was the only one on the Octagon staff with any schmaltz.

I think the Newsletter is a most creditable and certainly a needed analysis of the Washington scene.

PAUL HAYDEN KIRK
Seattle, Wash.

great benefit

Dear Editor: I am delighted that PROGRESSIVE ARCHITECTURE took advantage of Fritz's great knowledge and interest in architecture and architects. I am sure that you will get nothing but enthusiastic reports from your having done so.

The column sounds good to me. As you know, the A.I.A. MEMO also covers this field, but I am sure that Fritz will write the column so that there won't be a duplication of effort.

With Fritz's broad background, knowledge of the inner workings of the architectural profession, and ability for constructive criticism, it seems to me that he could perhaps eventually broaden the column with great benefit to the profession. HERBERT C. MILLKEY
Atlanta, Ga.

very gratifying

Dear Editor: It is very gratifying to see that you picked Fritz Gutheim.

The number one column is very good. The first paragraph brings a question to my mind which Fritz might sometime like to touch upon: Why was the hospital program the only one to enlist active support of architects?

In the final paragraph, he refers to "Metropolitan Regional Plans." How many are there? The last half of that same paragraph is good for a whole book or maybe two books. I hope he will pursue that further sometime.

MARION I. MANLEY
Coconut Grove, Fla.

likes it fine

Dear Editor: Thank you for Fritz's column: I like it fine, particularly the closing paragraph on the redevelopment program. JULIAN E. BERLA
Washington, D. C.

will say much

Dear Editor: As the very name of your valued magazine indicates—if PROGRESSIVE has any meaning at all—you must entertain the idea of using a man of Fritz Gutheim's ability, if it is offered. Everything I read in the first Newsletter makes sense—because I think that way. It won't make sense to an architect who is against public-building operations; which does not mean that I am *for* public building. In fact, I think most of it stinks, but as Vi Hudnut has said, much of architecture is political; it is a political art. It must be tied into fiscal governmental policies.

You can have a Newsletter that goes along with the crowd, or you can have Fritz Gutheim's interpretations. The first won't say much, and be equally effective. The latter will say much, and in so doing will perhaps, at times, stir up a tempest. All to the good. We need more Fritz Gutheims in architecture.

GEORGE FRED KECK
Chicago, Ill.

extremely informative

Dear Editor: I read with a great deal of interest Fritz Gutheim's Newsletter and think it a very desirable addition to your magazine. The first part is exceptionally interesting. I think his comment on Albert Cole extremely informative. Keep on improving. RALPH WALKER
New York, N. Y.

best foot forward

Dear Editor: Congratulations on getting Fritz into a position where he can put his best foot forward. His first crack at reporting for P/A is a good summary. Keep it brief and I'll read the next one too. ROBERT E. ALEXANDER
Los Angeles, Calif.

sees "conspiracy"

Dear Editor: Noting your last lines in P.S. (July 1953 P/A): Yes, Tom, a nasty conspiracy well under way but the one Miss Gordon attacked and that I have fought for years.

N.B.: Sooner or later you will get in and pitch—why not NOW?

FRANK LLOYD WRIGHT
Taliesin, Wis.

report on A.I.A.

Dear Editor: I particularly enjoyed reading your report on the A.I.A. Convention in your P.S. of August 1953 P/A.

Items of this type, frank and honest, would be read more by architects, in-

(Continued on page 10)

(Continued from page 9)

stead of the run-of-the-mill professional news items that appear.

Many of us outside of the Institute feel that it has become top heavy and stuffy over the years. After long goading it has come up with a program of promoting publicity for the function of the architect, which is being watched with interest, though many state it is just 10 years too late.

One matter of interest also is that it has a very large proportion of nonpracticing architect members, in categories too numerous to mention; but men who are not practicing architects, some who use the A.I.A. to advantage. I am not criticizing these memberships, but it would be interesting to know what percentage they constitute.

Often at meetings, this element does not have the interest of the practicing architect, although they will make decisions in their behalf from their point of view, often different from the practitioner.

Again, congratulations on your article, and may the Institute receive some shaking up within its executive functions and personnel.

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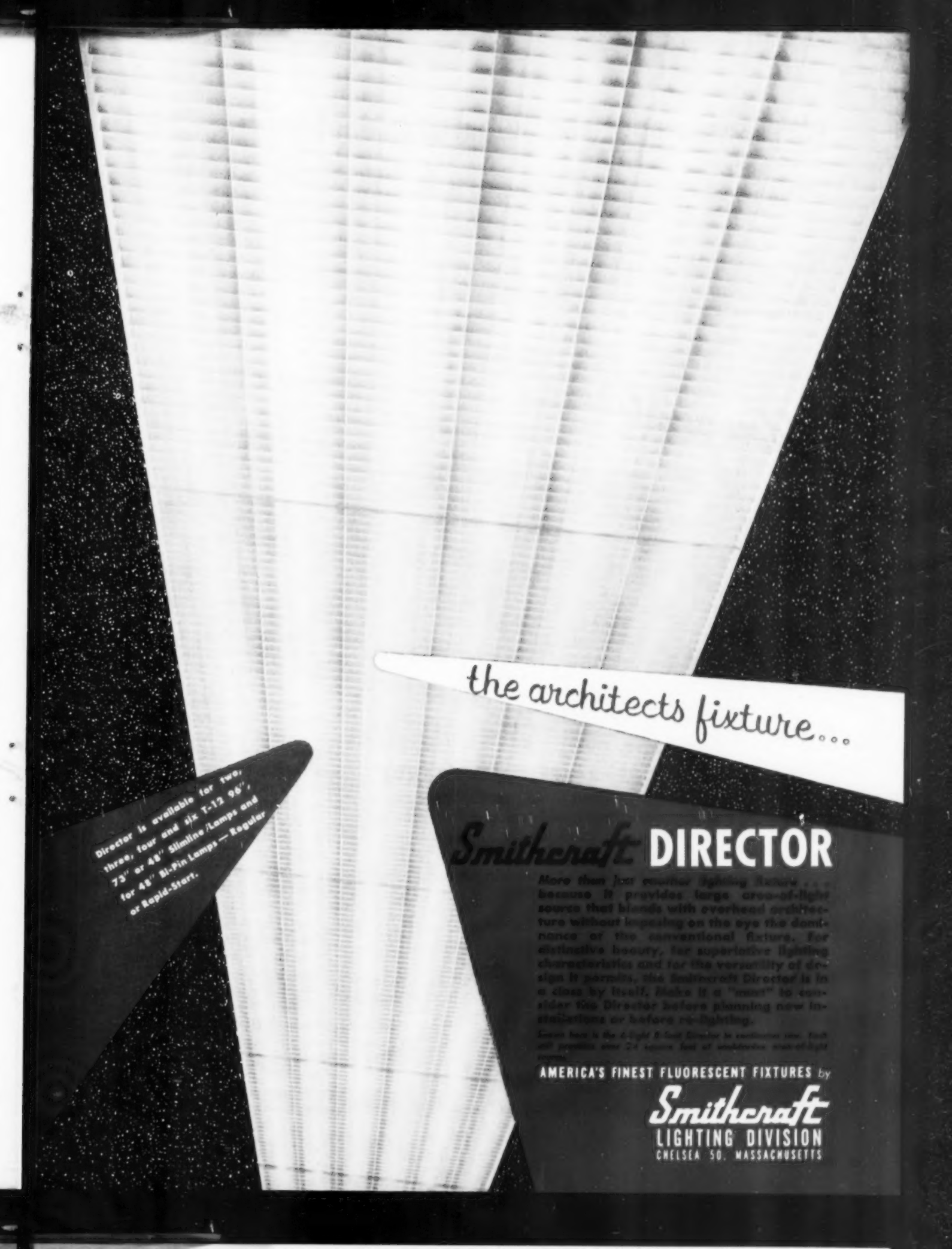
interesting, enlightening

Dear Editor: IT'S THE LAW by Bernard Tomson is one of the most interesting and enlightening departments of P/A. In the August issue, the well-chosen examples of qualifications as "the lowest responsible bidder" on public works were most helpful in learning the decisions of various courts. There are also reasons other than "lack of experience" why the owner would be far better served by not being required legally to accept the lowest bid.

As everyone knows, the purpose in specifying a year's guarantee is that numerous defects, omissions, oversights, etc., are almost certain to occur between final payment and this date. While the contractor is obligated to correct these conditions under the terms of the contract, actually getting him to do this work is sometimes an entirely different story. It may require a law suit; it may require a great deal of nagging on the part of the architect and owner, during which time the owner is greatly inconvenienced and future defects are encouraged; or the work may be done promptly and efficiently. The contractor whose reputation has established the fact that he falls into this last category, even if he were not the lowest bidder, in many cases would serve the owner far better and provide the most economical service in the long run—which is actually the ultimate objective in competitive bids.

Also in the matter of materials and equipment, a particular article manufactured by two different companies may be of exactly the same quality when in good condition. If a defect is discov-

(Continued on page 12)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p/a views

(Continued from page 10)

ered, however, as in the case above, one company will repair the piece much more quickly than the other. Even in the matter where the warranty period has expired and the expense properly is to be borne by the owner, a manufacturer with a local agency, and one whose distributor will handle the problem himself instead of washing his hands of the whole matter, and referring the owner to the factory, would serve the interest of the general public better if his material were used.

It is apparent that bids cease to be competitive bids if we find too many excuses not to select the low bidder, and if this practice were not conducted with sound judgment and impartiality, competitive bidding would be greatly endangered, and without competitive bidding we can well imagine where prices would run. With two conflicting considerations, a most difficult problem is presented, but there must be someone smarter than judges and politicians, who knows the answer.

JOSEPH WILLARD WELLS
Norfolk, Va.

Unequalled

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notice

further design credits

In our tabulation of design credits heading the presentation of Harris Armstrong's branch department store for Scruggs, Vandervoort & Barney in Clayton, Missouri (August 1953 P/A), we named Amos Parrish Company as responsible for fixtures and interior decorating. That firm now asks that we also credit its engineering staff, headed by HOWARD MILLER, for the general display and merchandise lighting in the store; and adds that the wiring plan was by FERRIS & HAMIG.

In the INTERIOR DESIGN DATA section of the same issue, devoted to "Living-Dining Spaces," the White Plains house was credited to Edward D. Stone Associates—the latter being ROY S. JOHNSON and the late KARL J. HOLZINGER. In the same section, however, Roy S. Johnson was the *only* architect credited for the Dr. Saul Fischer house in "21 Acres," a development for which the architects and designers also included: CHARLES BLISS, engineer; LIONEL FREEDMAN, photographer-designer; FRED M. GINSBERN, architect; MARTIN GLABERSON, industrial designer; IRVING RUBIN, designer; and STANLEY TORKELSON, architect.

Among the photographic credits, by choosing the wrong creditline to accompany the presentation of the Ring Theater designed by Robert M. Little and Marion I. Manley, associated architects, and photographed by RUDI RADA, we indicated that Julius Shulman had been to Miami for that job—which he ruefully admits he would have enjoyed, but did not do.

11,362 square foot exterior of this laboratory erected by 5 men in 25 days

with Stainless Steel Panel Construction

CORNER AND WINDOW VIEW of the Laboratory showing how effectively the two types of panels are combined in this building.

TWO TYPES of Stainless Steel panels—fluted-face and flat-face—combine to give the Metallurgical Laboratory at United States Steel's Fairless Works an attractive exterior. Architect: Hoffman and Crumpton, Pittsburgh, Pa. General Contractor: Joseph R. Farrell, Inc., Philadelphia, Pa. Stainless Steel panels fabricated and erected by The H. H. Robertson Company, Pittsburgh.

ARCHITECTS and builders are finding Stainless Steel Panel Construction the answer for buildings that must have pleasing appearance, be easy and inexpensive to maintain, yet can be erected quickly in any weather.

One of the latest examples of this type of construction is the Metallurgical Laboratory at Fairless Works of United States Steel Corporation, Morrisville, Pa. A crew of five men and a foreman installed the 11,362 square feet of insulated Stainless Steel panels in 25 working days.

This type of construction can be carried out with Stainless Steel panels that are insulated or non-insulated, depending upon the purpose of the building. The low coefficient of thermal transmission of the insulated panels makes them particularly efficient in regard to heating and air conditioning costs.

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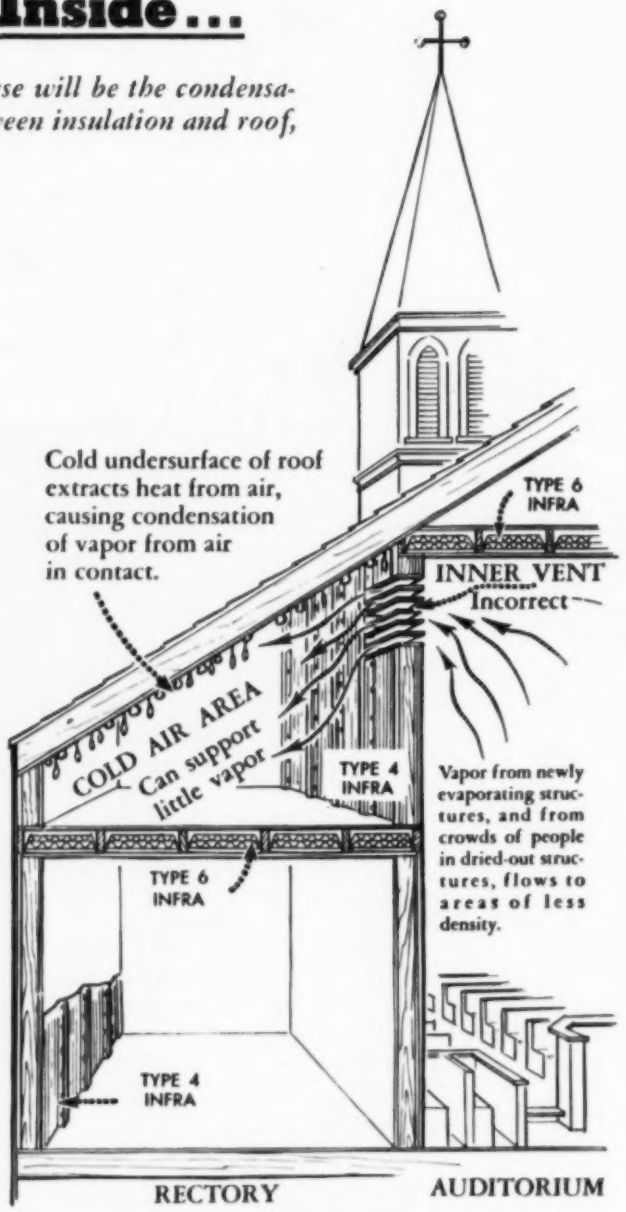
The new multiple accordion aluminum* Infra Types 6-S*i* and 4-S*i* forms a continuous blanket of uniform thickness between joists, giving the entire area maximum protection against heat loss and condensation formation. Write for samples.

The U. S. National Bureau of Standards has prepared a helpful and informative booklet, "Moisture Condensation in Building Walls" which discusses causes and cures. Use the coupon and we will send a free copy.

*Patent applied for


Cold undersurface of roof extracts heat from air, causing condensation of vapor from air in contact.
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research laboratories for Westinghouse

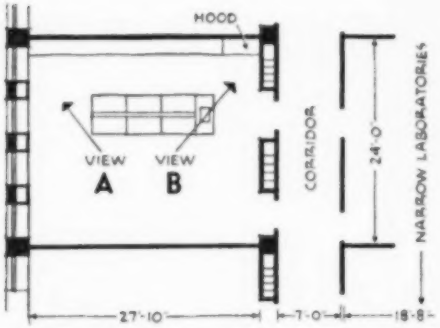
Modular planning was the key to the design of the new Westinghouse Research Laboratories to be built at Churchill Boro, Pennsylvania, as developed over the past nine months by Voorhees, Walker, Foley & Smith, architects-engineers, of New York. The module, 6′ along the window wall and 19′ or 25′ in depth as required by various functions of scientific research, is "the smallest repetitive unit of space that is completely equipped with laboratory and building services." The modules are combined to form laboratories 12′ 18′, and 24′, all with ceiling height of 10′-4″ under the beams. Each module has its own artifical and natural illumination, heat, laboratory service facilities, and telephone.

Accessibility of services for maintenance and modification, without interruption of activities in adjoining laboratories, was a prime consideration. Branches of the laboratory services, fume hoods, etc., are readily installed as dictated by varying arrangements of laboratory units. Even circuit breakers are located at alternate piers, to make one or more available for each laboratory.

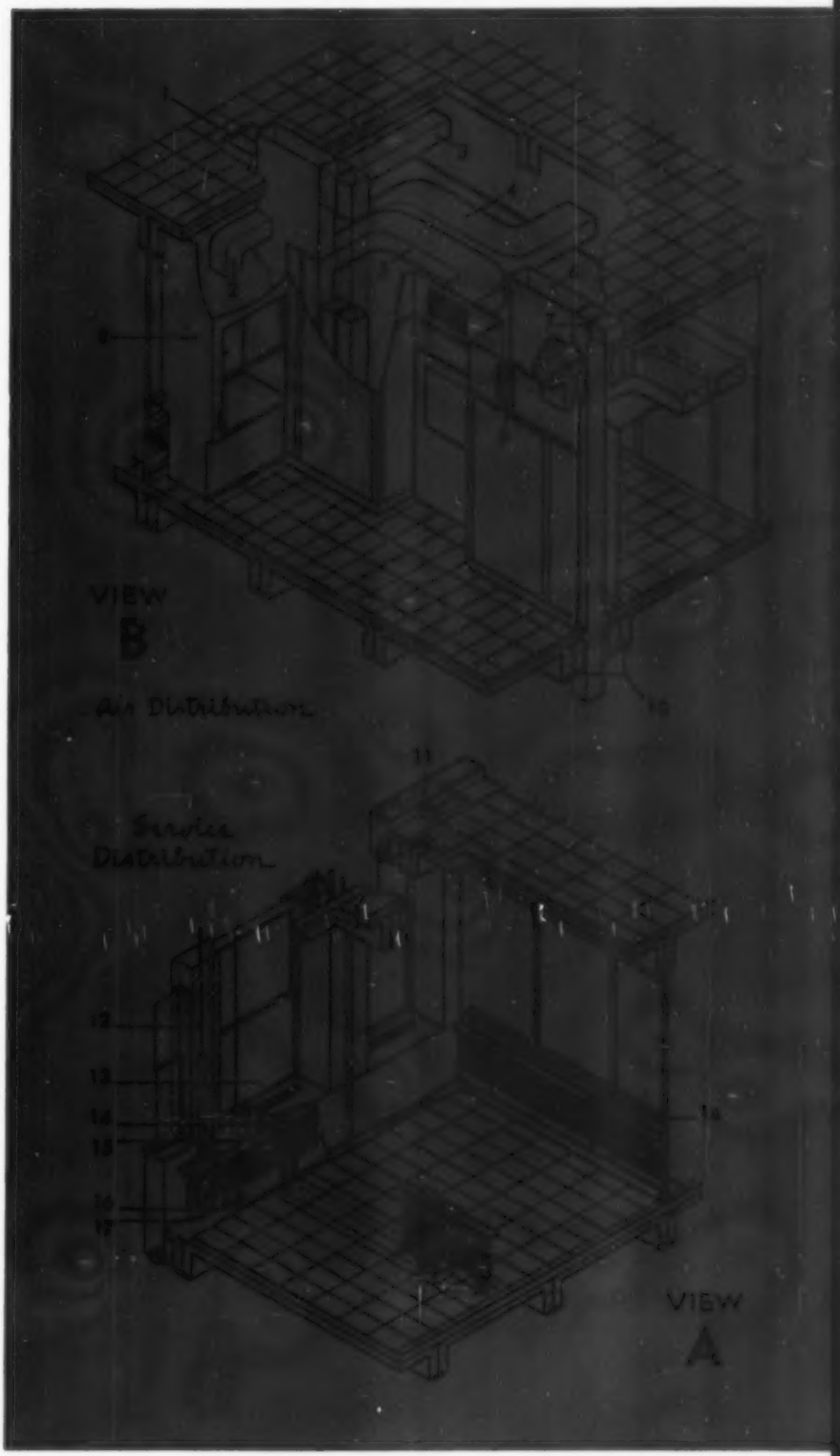
In wings projecting from the main block of laboratories are the secondary areas—offices, drafting rooms, conference rooms,

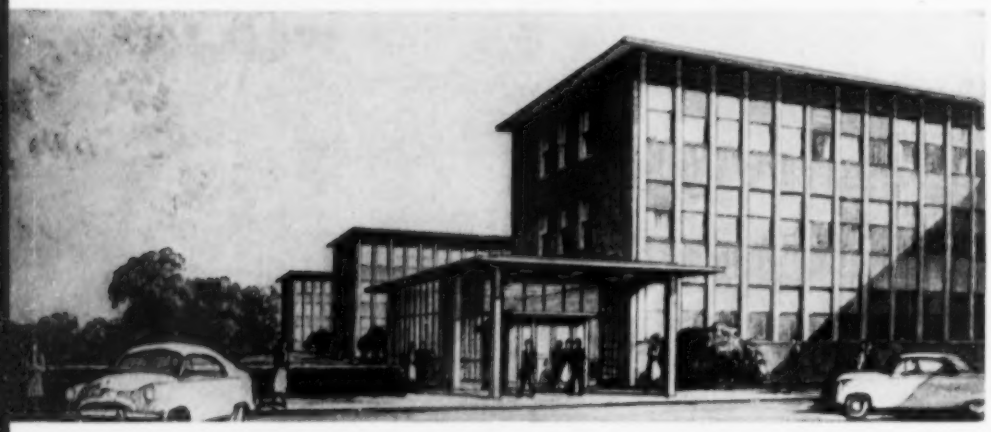
Legend for Modular Laboratories

1 structural column, center of building
2 exhaust
3 exhaust from narrow lab
4 supply to narrow lab
5 supply
6 exhaust
7 supply
8 hood
9 alternate hood location
10 double girder
11 structural column
12 heating
13 convectors
14 power
15 mechanical services
16 drain
17 pipe shaft



Typical Lab Plan





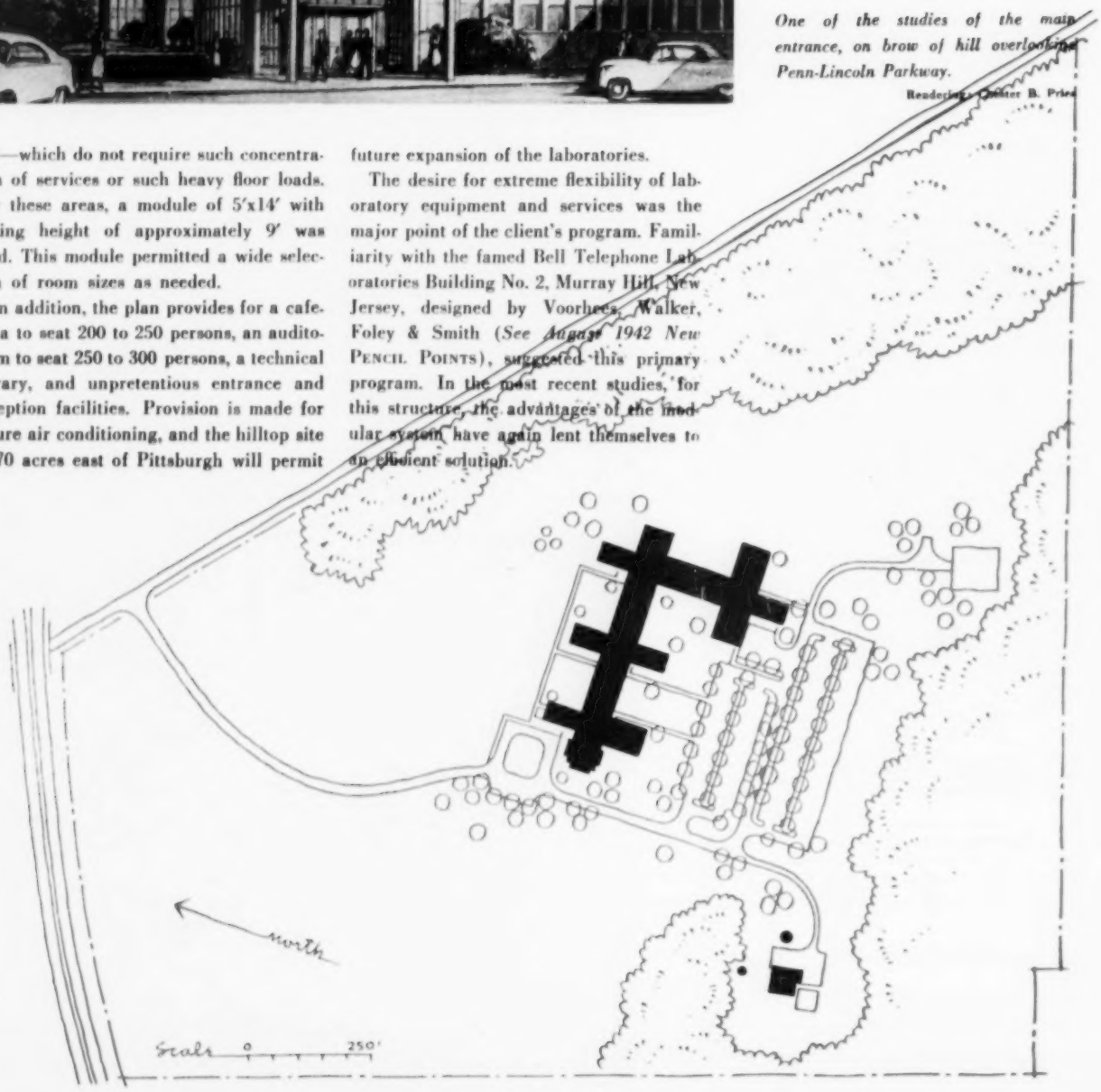
One of the studies of the main entrance, on brow of hill overlooking Penn-Lincoln Parkway.

Rendering by Chester B. Price

etc.—which do not require such concentration of services or such heavy floor loads. For these areas, a module of 5'x14' with ceiling height of approximately 9' was used. This module permitted a wide selection of room sizes as needed.

In addition, the plan provides for a cafeteria to seat 200 to 250 persons, an auditorium to seat 250 to 300 persons, a technical library, and unpretentious entrance and reception facilities. Provision is made for future air conditioning, and the hilltop site of 70 acres east of Pittsburgh will permit future expansion of the laboratories.

The desire for extreme flexibility of laboratory equipment and services was the major point of the client's program. Familiarity with the famed Bell Telephone Laboratories Building No. 2, Murray Hill, New Jersey, designed by Voorhees, Walker, Foley & Smith (*See August 1942 New* PENCIL POINTS), suggested this primary program. In the most recent studies, for this structure, the advantages of the modular system have again lent themselves to an efficient solution.



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housing in mild climates

By Richard J. Neutra

The economic unification of the globe may be badly lagging, but its technological unification on the basis of planetary traffic, transport, and industrialization, has markedly progressed in recent decades. And truly cosmopolitan views on planning and design have been increasingly forced upon organizations concerned with these vital subjects. As an instance, while CIAM started as a cohesive group of forward-looking Europeans, its membership and the scope of its research have become worldwide during the last quarter of a century.

It is now assumed that civilization has geographically and psychologically a mild climatic origin. Even the earliest defined communities in rigorous weather areas—such as the glacial cave city of Monte Castillo near Santander—represented only the result of a forced shift of already cultured populations from a milder habitat where cataclysmic changes of climate had occurred. The high art and mental stage of "man in the cave," which Giedion has studied and so impressively pictured, was an *import* from places where shelter and protection had been less necessary.

The "One World" now expressed by CIAM or UNESCO is not really new, but was truly the stage set for the human species, since for billions of years water bodies and the ocean of the air formed one continuum with fluid exchanges through the seasons. Climatology now has information on periodic changes—changes over periods immensely longer than seasons of one year—which have occurred in the basic conditions underlying organic and social life. And corresponding oscillations of human habitat and cultural topology have accompanied those physical changes.

Also, in historical time, the warm countries of Mesopotamia, Egypt, and Hellas were cradle to an architectural and planning culture which long has dominated the thinking of design, even after Nordic successors had taken the lead. Today, the tropics and subtropics are recovering politically from colonial suppression and torpor, to at least an awareness of industrialized civilization, which their peoples wish to control and extend. In the northern hemisphere, for example, the Zone of "North Easterly Trades," to express it climatologically, is clearly in the ascendant at present and begins to compete with the zone of higher latitude under the "Circumpolar Whirl."

Housing can therefore no longer be based on Nordic standards: the naiveté of Dutch Batavia or Spanish San Juan, in the tropics of Indonesia or the Carribean, is superseded, and tropical and subtropical housing are no longer merely "colonial" subjects.

(Continued on page 20)

ARCHITECTS

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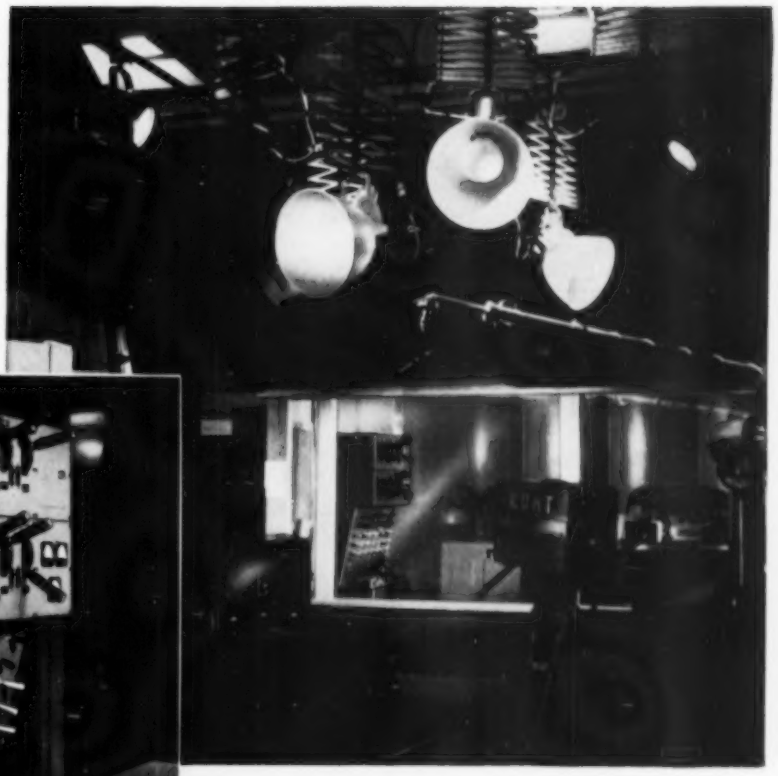
Note dimmer board in the control room. Station KUHT-TV is managed by Mr. John C. Schwarzwalder. It is a venture of the University of Houston and the Houston Independent School District. The University has an enrollment of over 10,000 students. Its president is Dr. W. W. Kemmerer.

The Packaged POWERSTAT Dimmer board installation at KUHT-TV, built by the William E. Powell Mfg. Co. of Houston, Texas, consists basically of two Packaged types DCS6-2000 units mounted above a bank of single pole double throw switches.



big-budget TV studio lighting

obtained with low cost powerstat dimmers

Money was an object at KUHT-TV when it came to planning the studio lighting circuits — so was top performance. Consequently Mr. George L. Collins, art director, selected Packaged POWERSTAT light dimming equipment when he designed the board. By so doing he obtained the finest light control equipment at the lowest cost consistent with such quality.

The final arrangement provides almost unlimited flexibility and, when production permits, one bank of dimmers can even be used as a pre-set board.

Each Packaged POWERSTAT Dimmer is a complete switchboard in itself. It can also be used in combinations for greater capacity. KUHT-TV uses two of these packaged units, mounted one on top of the other, to control a multitude of lighting load circuits that is much in excess of the available dimmer circuits.

The standard line of Packaged POWERSTAT Dimmers can be adapted to meet complex light dimming requirements. Lighting engineers of The Superior Electric Company welcome the opportunity to help you plan an installation that is simple to install and to operate — with your budget fully in mind.

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housing in mild climates

(Continued from page 18)

The expression "mild climate" usually is understood on thermal terms; that is, concerning regions in which winter temperatures (as our thermal senses report them) are never low. I have elsewhere* endeavored to show that the architect of shelter always deals with a "multisensorial" client. The surface sensory record of temperature is intimately intertwined with the other cutaneous tactile information on cooling breezes, air moving over the tiny hair antennae over each pore of our skin, and with a multiplicity of inner interceptive sensings, caused by physiological responses to moisture content, electric charges, and chemical modifications of the air. All these circumstances are markedly different when we step down from the door of a transoceanic plane onto a tropical isle. Ship travel, with its much more gradual changes, has never so clearly driven home the point of climatic experience—but the contemporary "housing expert" learns fast when he travels by jet.

In rigorous climates, the objectives of shelter, physiologically understood, can be described as compensation for thermal deficiency; but a good many of psychological and sociopsychological connotations cluster around this battle against the cold.

The objectives of shelter in areas of low winter temperatures are governed by the impressive *winter memories* and may be summed up thus:

(1) Storage, or instinctive "treasuring," of an air volume, once it is warmed or heated. Storage of heat is, strangely, a much earlier concern than the technical production of heat. The human body when properly fed produces heat, and its storage becomes the first worry.

(2) Control of room *size*, in relation to what can be heated by the human body itself, by mother and child, by the monogamic family group, or by a whole tribal clan housed in one structure, such as the Northwest Indians favored.

People warmed each other in the kayak at sea or in the sleeping bag at home, and when artificial combustion was introduced as a heating device, size of interior space was gaged on "thermal terms": physically, physiologically, and psychologically. Spaces never were appreciated when they exceeded the size that could be brought up to a comfortable temperature.

•

Means of such Nordic thermal-shelter comfort to be recognized early were:

(1) Enclosure keeping out air movement;

(2) Insulating materials for this enclosure, to reduce heat loss through conductivity. After the cave, crude masonry was evolved, and without much analysis the secondary heat-storage capacity of the shelter wall itself began to be cherished; and

(3) Use, in some cases, of reflectivity for radiating body-heat, which was well

* Survival Through Design. *Oxford University Press, New York, N. Y.*

(Continued on page 293)

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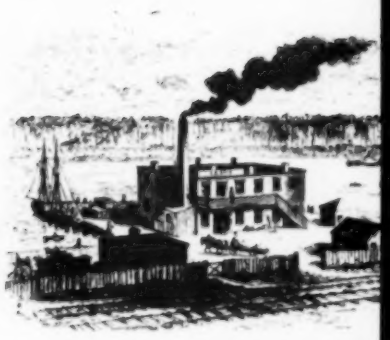


First elevator shop, Yonkers, N. Y. **1853**

OTIS SETS A GOAL
for a second century of progress

100th Anniversary statement to the employees and stockholders of the Otis Elevator Company by the President, LeRoy A. Petersen.

The year 1953 is for Otis both an end and a beginning. It is the end of a century during which the name, Otis, became synonymous with the word, elevator; it is the beginning of a second century of continued Otis leadership and development in the field of vertical transportation.

During the past hundred years, the men and women of Otis have, by hard work, trial and error, and occasional flashes of genius, built a company and a product of which we today have just reason to be proud and, in the doing, they have contributed greatly to the building of their country.

(continued on next page)

the Otis heritage

During this first century, there evolved an Otis organization whose character reflects the composite character, judgment and ideals of those leaders of the past who, generation after generation, selected and trained and inspired this organization. It is an organization whose roots go deep into the past, and which has a tradition of loyalty to the Company not easily understood by those who are not a part of it.

Similarly, the organization of the future will, to a considerable degree, reflect the judgment, character and ideals of those who now have a voice in the selection and training of those who will follow us. Clearly, it is our obligation to pass on to our successors an organization no less qualified for their task than the organization which we inherited and with which we have had the privilege of working.

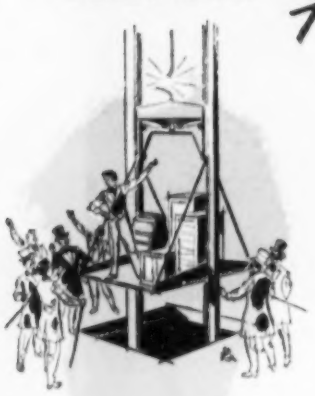
During the past century, Otis established and maintained a reputation for designing, manufacturing and installing the best elevators available. At the same time, we built a reputation for trustworthy performance and fair dealing, which resulted in our becoming not only the world's largest producer of elevators but also a producer whose product commands a premium price.

That this position is not the result of chance, but rather is the result of a deliberate policy and of a conscious goal, is evident from the objectives outlined by Charles Otis in 1877:

"It should be our aim", he said, "to make our work satisfactory to our customers, not alone until we get our pay for each particular job, but until we get paid for every job we ever intend or expect to do for anyone, to the end of time; to get every customer we can and to keep every one we get – both for his work and for his influence.

"We must keep in mind", he said, "that the great objects of doing business are (1) to give occupation, (2) to achieve success, and (3) to make money, and that we shall not accomplish very much of the first two of these objects if we fail in the last."

SOME OTIS "*Firsts*" OF THE FIRST HUNDRED YEARS



1853—Elisha Graves Otis invented the first safe elevator. It was equipped with a safety device to prevent the elevator from falling if the ropes should break, which was a frequent occurrence in those days. Until a safe elevator became available, buildings and cities had grown vertically only as high as people were willing to climb stairs.

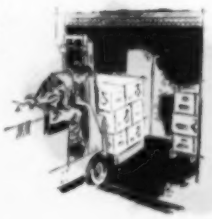
1878—The first high speed hydraulic elevator, introduced by Otis Brothers and Company made the first "skyscrapers" economically possible. These elevators were capable of higher speeds than the then existing methods of control made it practicable to use, and car speed was, therefore, limited to 700 feet per minute.

1889—The first Otis electric drum elevator was installed in New York City. The application of electricity to elevators made possible many new types of control, and the use of electric door interlocks added greatly to elevator safety.

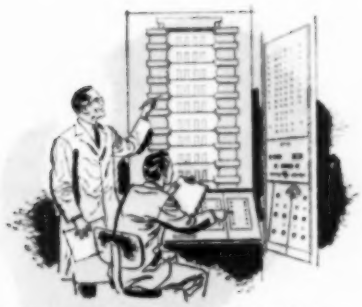
1892—The first elevator to be controlled by variable voltage supplied by a separate motor generator was installed by Otis Brothers and Company in New York City under license from Ward Leonard. This type of control, which is now used on all high speed Otis elevators, provides smooth and rapid acceleration and retardation and contributes immeasurably to the quality of operation.

1900—The first Escalator was exhibited by Otis Elevator Company at the Paris Exposition and was awarded a grand prize. Until 1950 the word "Escalator" remained an Otis trademarked name, but is now in common use as a part of the English language.

1903—The first electric gearless traction machine was developed and installed by Otis. Gearless traction machines can be used for any desirable speed and rise and are extremely durable. To our knowledge, no Otis gearless machine has ever worn out.



1915—The first self leveling, or Micro-Drive, elevators were developed by Otis engineers and enable passenger and freight elevators to be brought to an accurate stop at floor landings and to maintain this level automatically. This development saves time, eliminates the stumbling hazard and permits trucks to run smoothly on and off an elevator platform.

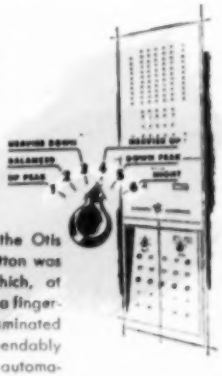


1953—The first traffic duplicating equipment was designed by Otis engineers to facilitate research and to demonstrate elevator performance. This electronic device is used to impose upon a group of model elevators in any desirable order all of the traffic conditions that, under any circumstances, could be created by the passengers in an intensive service office building. It then demonstrates by actual performance how such traffic is handled by Otis Autotronic — Without Attendant — Elevators with a fully automatic electronic group supervisory system.

This ingenious electronic device is effective, not only in demonstrating the performance of existing equipment, but, by providing Otis engineers with a laboratory which furnishes a prompt and accurate reading on the utility of new developments under actual operating conditions, it gives added assurance that the Otis leadership which has been so outstanding in the past will be continued in the years to come.

1950—The first group supervised intensive service elevators, designed to operate without attendants in the cars and equipped with electronically protected car and hatchway doors, were installed by Otis Elevator Company in the Atlantic Refining Company Building in Dallas, Texas. Such Autotronic—Without Attendant—Elevators have demonstrated their ability to render excellent service and to save up to $7,000 in operating costs per elevator per year.

1948—The first automatic and electronic supervisory system (Autotronic®) was developed by Otis to secure maximum quantity and quality of performance from a group of intensive service elevators and to vary the plan of operation to suit the changing requirements of the traffic.



At this time, also, the Otis Electronic Touch Button was made available which, at the lightest touch of a fingertip, is brightly illuminated and simply and dependably stops the elevator automatically at the desired floor.

1925—The first full Collective Control elevators were developed by Otis, primarily for use in apartment houses and hospitals. These elevators are passenger operated but furnish service substantially equivalent to that secured with an attendant operated elevator.

1924—The first Signal Control elevators, developed and installed by Otis, enable elevators to operate with speeds in excess of 700 feet per minute and to stop accurately and automatically in response to the pressure of hall or car buttons.

our goal for the future

At the beginning of our second century of operation under the name of Otis, it is appropriate to consider what we *now* regard as our purpose and objective and what we *now* believe to be the justification for our continued existence.

Without attempting to be epigrammatical, it seems to me that our objective should be:

To build the best products in our field; to continually improve these products in design and in method of production and installation so that they can continue to be sold at a profit sufficient to

(a) permit payment to investors of a return on their investment which will furnish an adequate incentive to save and invest in this or other useful competitive enterprises,

(b) permit stable employment of a carefully selected and trained organization,

(c) make possible such wages, salaries and working conditions as will result in the maximum incentive and capacity for production for the ultimate good of the greatest number.

This objective is based on the belief that the greatest good for the greatest number can result only from maximum production of useful goods equitably distributed. It is also based on the belief that maximum production is obtainable only through competitive enterprise, with such incentives as are necessary to prompt capital to provide the required tools and to stimulate all types of labor to the greatest possible productive effort consistent with their spiritual and physical well being.

It will be noted that, in common with Mr. Charles Otis, it is recognized that, first and foremost, the purpose of a business must be to satisfy its customers to the end that they will continue to buy the product at a profitable price. Failing in this, all other objectives must be abandoned—including the fundamental objective of continued operation.

Obviously—a successful business must provide for its own future existence, if it is to accomplish anything else. However, mere existence is the *minimum* requirement. The real justification for a company's survival must be measured by the contribution which it makes to the general welfare.

In common also with Mr. Otis, we recognize the importance of providing employment—but only when employment results in, or contributes to, useful production or gratification of human needs. Employment which merely wastes time is a criminal waste of human lives and human energy and is grossly inconsistent with the objectives of a legitimate business.

our personal obligation

The ideal for which we should strive is a company which provides every person in its organization with frequent opportunity to test his maximum capacity and which provides a constant incentive to increase that capacity and to devote it to useful ends. *(continued on next page)*

There is so much in this world that requires doing and the doing of it requires so much human energy and intelligence that we cannot tolerate that which wastes this energy and intelligence and which stultifies the ambition which is necessary to make it do useful work. We must measure our own individual success not primarily by the position we attain but by the extent to which we are utilizing to the utmost the talents and capacity with which we are individually endowed and also by the extent to which we make it possible for others to do the same thing.

the role of competitive enterprise

The United States has reached a position of world leadership primarily, I believe, because, throughout the greater part of its history, emphasis has been laid upon the importance of the individual and upon the importance of maintaining individual opportunity and powerful incentives for individual effort and accomplishment. The resulting competitive enterprise has produced a standard of living and a capacity for production the like of which the world has never seen.

Nevertheless, there has arisen a contrary philosophy, backed by the ruthless power of a foreign dictator state, and the American system of living and producing is on trial before the world.

the challenge to American business

Now, at long last, the American people have once more called upon American business men to restore the faith of the country in the basic principles upon which our nation was established and to stage such a demonstration of the advantages of democratic competitive enterprise that the fallacy and folly of socialism and communism will be self evident to all the people of the world who are free to learn —and, ultimately, even to those behind the iron curtain.

It is a crisis greater than any previously faced by the American people and a challenge to the business men of the country which they must accept or fail miserably in the defense of the principles in which they have professed a profound belief.

our share of the job

As a part of the business world, we share in the obligation to demonstrate the superiority of our system of democratic competitive enterprise in providing for the general welfare.

Our share in this demonstration is to so work and so manage the affairs of our Company as to help raise the level of accomplishment of the business community. Then confidently, aggressively, persistently and intelligently we must acquaint, first of all the people of our own country and then the other people of the world, with what business is, has done and can do and the vital part which business has played and must continue to play in building up and maintaining the standard of living, way of life and defense of our country.

The Otis Elevator Company is to thousands of employees, stockholders and customers a representative of business and an example of the operation of the competitive enterprise system. It should be our purpose to make that example a good one.

L. A. Peterson

President

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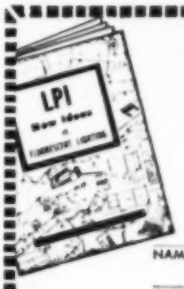

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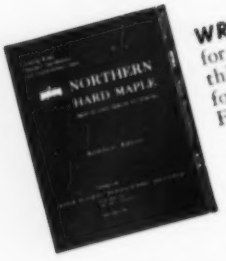

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FLOOR WITH *NORTHERN* HARD MAPLE
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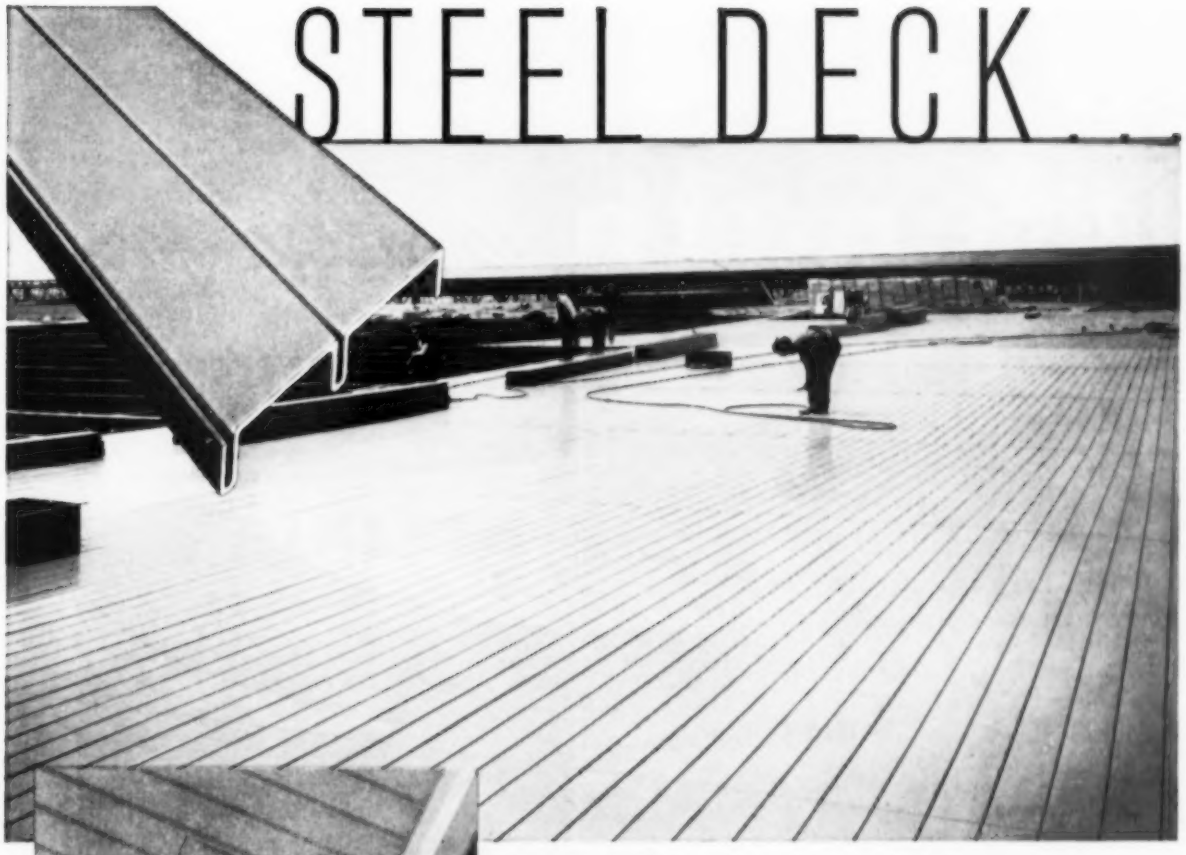

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Built-up saddles are eliminated in Steel Deck Roofs. Purlins can be set to create valleys at sump locations in the drainage area. Steel Deck can be warped to conform. No additional deck plates are required—no cutting, fitting or bending necessary.

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Mahon Roof Sump Recesses for use with Mahon Steel Deck can be furnished to fit any roof pitch. Mahon Cast Iron Sumps can also be furnished for 4", 5", and 6" conductors.

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MAHON

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No. 395
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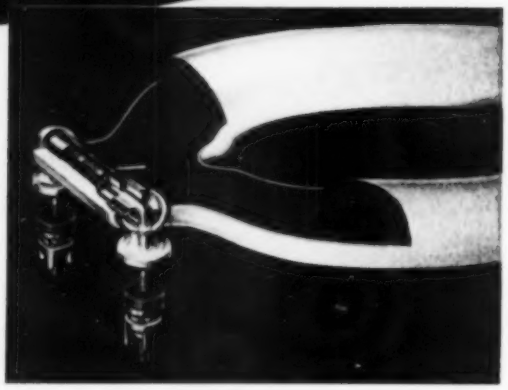
in black or white



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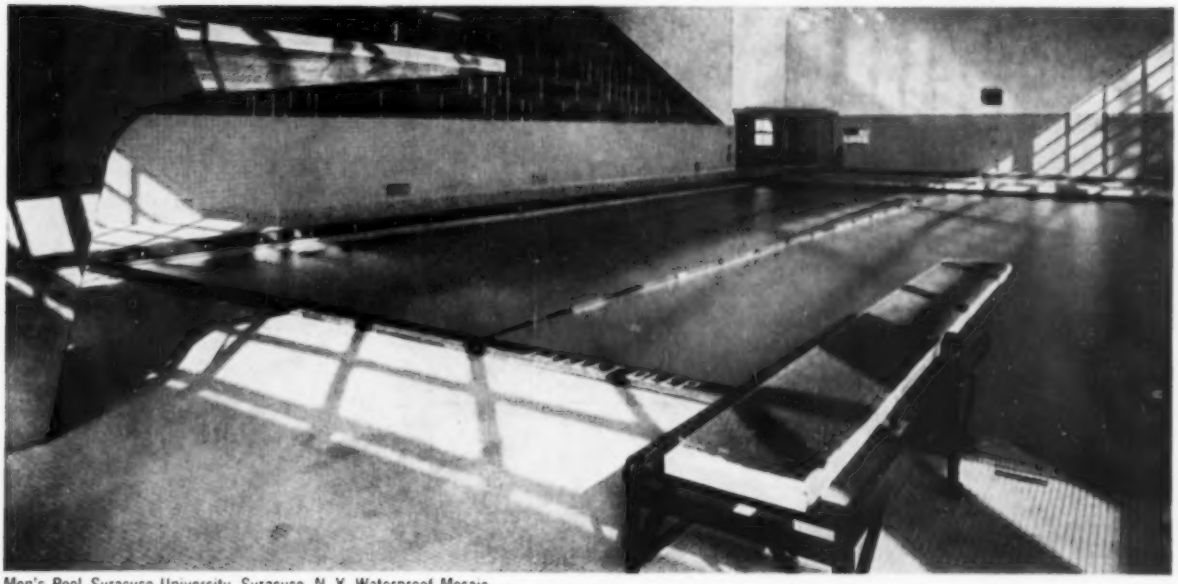
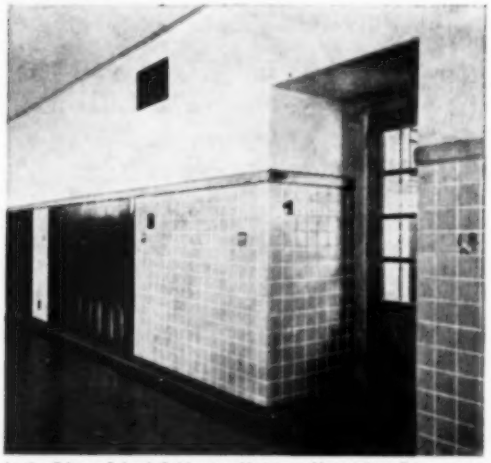


Men's Pool, Syracuse University, Syracuse, N. Y. Waterproof Mosaic Clay Tile gives a lasting, sanitary finish to pool lining, deck and surrounding walls. Lorimer Rich & Associates, Architect. Harry A. & F. Curtis King, Associate Architects. Stearns & Bergstrom, Inc., Tile Contractor.



In the Edison School, Coldwater, Michigan, Mosaic Clay Tile corridor walls stay beautiful despite all youthful antics. Warren S. Holmes Co., Architect. Imperial Tile Company, Tile Contractor.

Fifty years from today, a look inside these schools would tell you more eloquently than any words . . . there is nothing in the world to equal Mosaic Clay Tile for permanent beauty and satisfaction.

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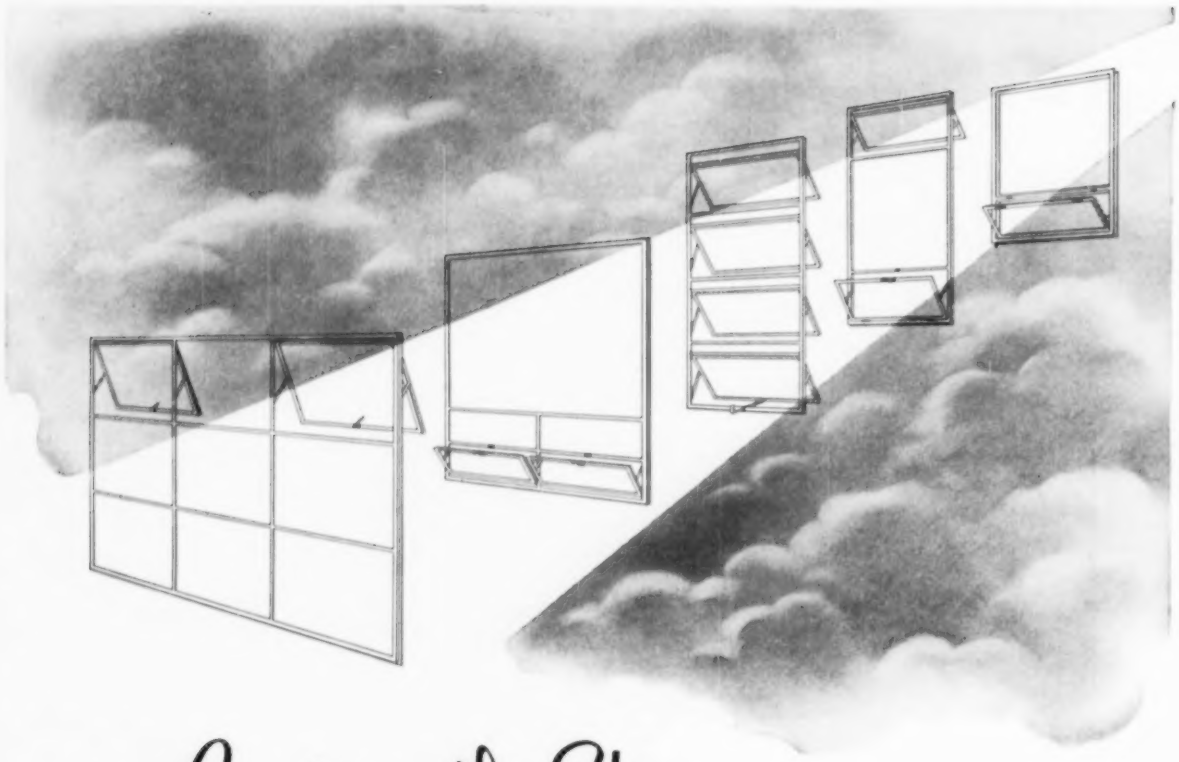

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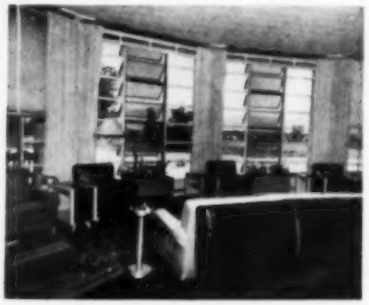
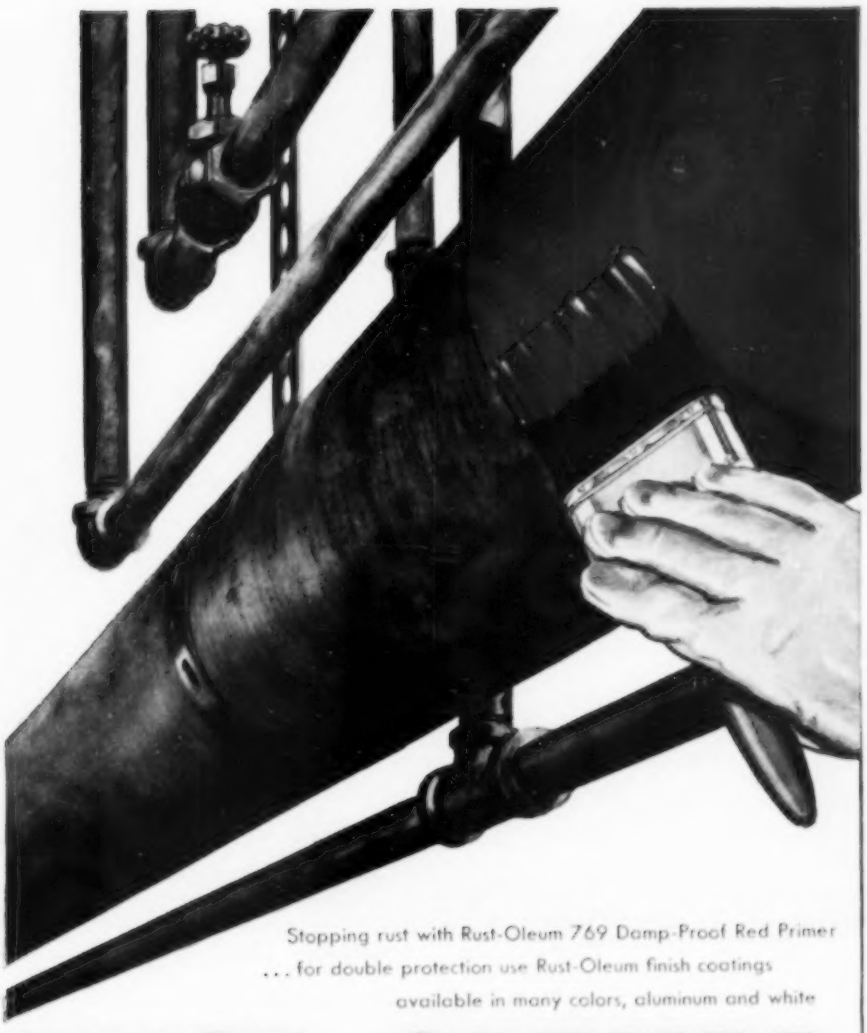
Truscon Maxim-Air® Steel Windows.





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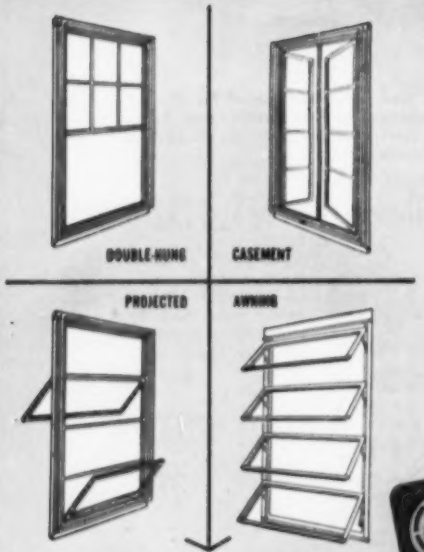
Architect: Thomas K. Hendryx
Contractor: Erdle Construction Co.



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When you insist on aluminum windows you can be sure of windows that *never* rust . . . windows that *never* need painting. Remember, mere surface protection against rust is not enough. Wear, unintentional scratches or damage may nullify any protective surface coating. For your protection insist on aluminum—rustproof through and through.

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Aluminum Window Manufacturers Association

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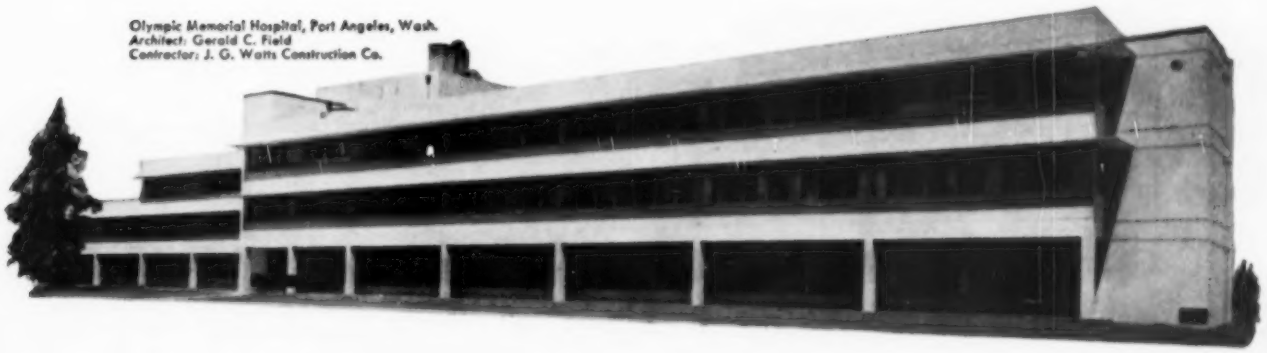

Olympic Memorial Hospital, Port Angeles, Wash.
Architect: Gerald C. Field
Contractor: J. G. Watts Construction Co.

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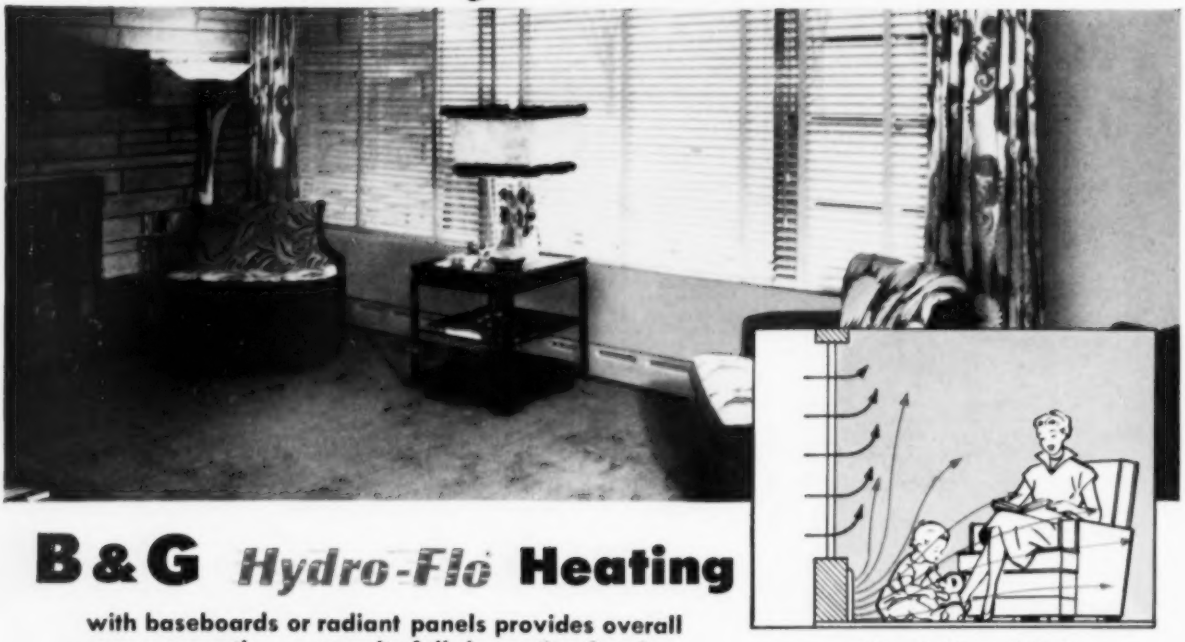
Today's home builders demand both

Comfort and Beauty



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B & G *Hydro-Flo* Heating provides not only a better *quality* of heat but better *controlled* heat as well. Every change in the weather is automatically met with a corresponding change in the heat supply. No fuel-wasting overheating—but always plenty of heat when the thermometer hits bottom.

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An abundant supply of domestic hot water is a genuine necessity in the modern home. The Water Heater of a *Hydro-Flo* System provides an ever-ready supply, 24 hours a day, winter and summer... at amazingly low cost. Plenty for automatic washers, bath, showers and every household use.

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Dept. DD-37, Morton Grove, Illinois

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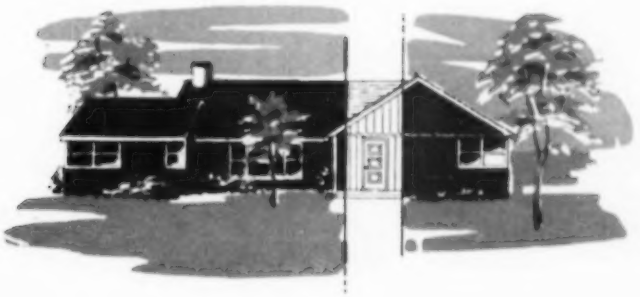
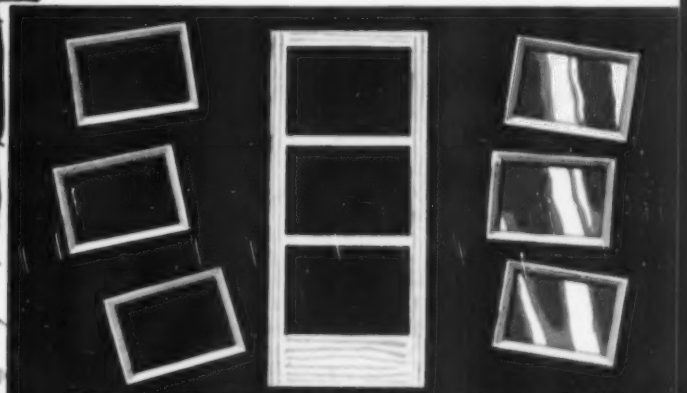


The CONTINENTAL STYLIST

the Original All-Weather Decorator Door

Wabash introduces an exciting new combination weather door—The Continental Stylist—a true decorator door of three equal panel design. Styled to blend with any type of architecture—traditional, contemporary or modern—it is a combination door that gives both new utility and new personality to the home.

To add to the beauty already present in its well-balanced proportions and soft shadow lines, the Stylist lends itself to a wide variety of challenging color combinations. Here is an all-weather door that all home-owners will welcome—a door that will give that "New Look" to any home, old or new.



Outstanding durability is built into this combination door. The three-insert design permits the use of two cross rails, giving the door frame and inserts unusual rigidity and strength.

(Patent Pending)

manufactured by

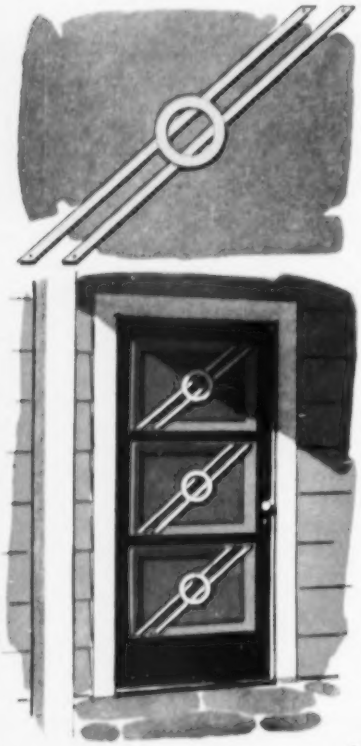
THE WABASH SCREEN DOOR COMPANY

Minneapolis.....CHICAGO.....Memphis

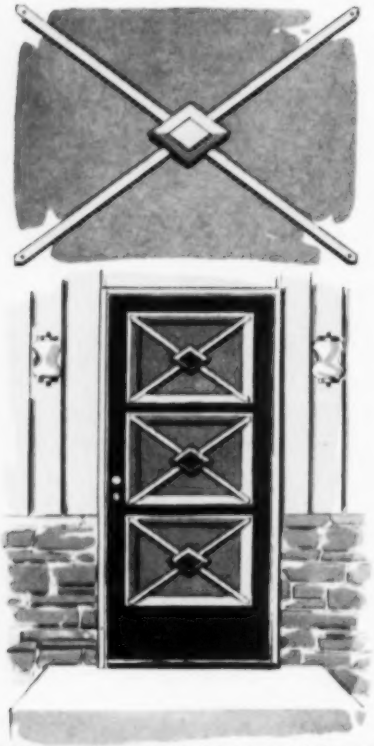
...added possibilities with the STYLIST

Further decorative possibilities with the Stylist are achieved by applying attractive wood grids to the screen and sash inserts. Grids are durably built and drilled for easy installation.

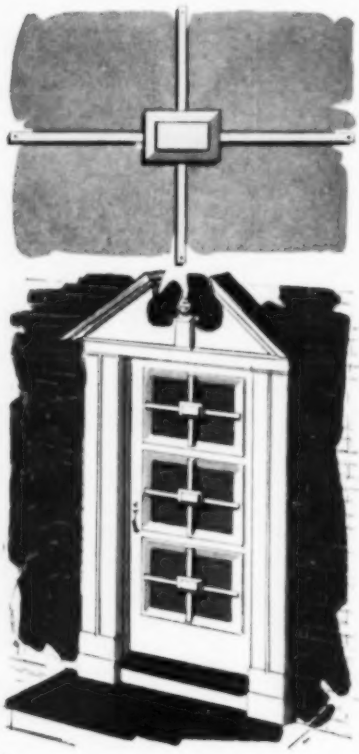
the STYLIST *with circle grids*



the STYLIST *with diamond grids*



the STYLIST *with square grids*



Storm and screen panels are easily interchanged. For partial ventilation in mild winter weather a screen panel can be combined with two glass panels. Out-of-season panels require small storage space.

Wabash Quality as Always...

Made of Ponderosa Pine—The wood of warmth, beauty and durability.

Quality Workmanship—Mortise and tenon construction—Cross rails add strength and rigidity to door frame. Door frame 1⅛" in thickness; screen and storm panels 1¾".

All Wood Parts treated with Woodlife—toxic water repellent preservative. Resists weather, decay and dimensional changes.

Glass in Sash Panels bedded in putty and held in place with wood molding.

Screen panels wired with non-corroding, non-rusting aluminum cloth.

Available Now!

The Continental Stylist is available in the following stock sizes:

2 - 8 x 6 - 9
3 - 0 x 6 - 9
3 - 0 x 7 - 1

Grids are available as an extra. They come cartoned, a set of three to the carton. Be sure to specify both type and size when ordering.

Stylist all-weather combination doors are distributed through retail lumber dealers.

Address Inquiries to: 310 S. Michigan Avenue • Chicago 4, Illinois

a Continental *product*

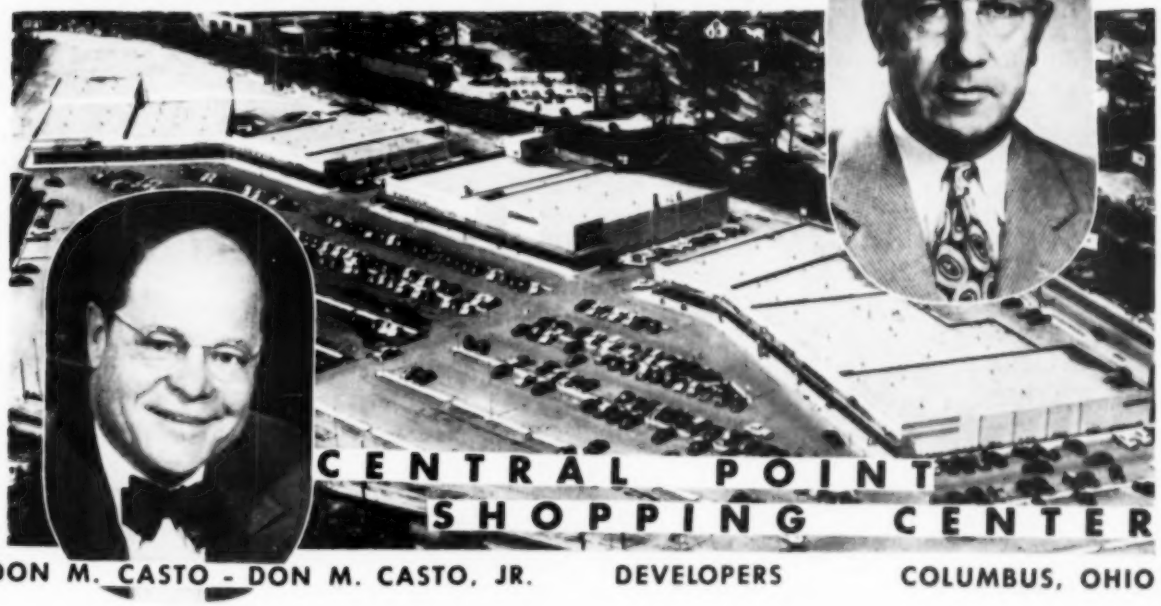
manufactured by

THE WABASH SCREEN DOOR COMPANY

Minneapolis.....CHICAGO.....Memphis

"Teamwork Does It,"

SAYS ARCHITECT, C. MELVIN FRANK



CENTRAL POINT SHOPPING CENTER

DON M. CASTO - DON M. CASTO, JR. DEVELOPERS COLUMBUS, OHIO

THE ARCHITECT, THE BUILDER AND YOUR LOCAL MACOMBER REPRESENTATIVE MAKE A TEAM

Architect C. Melvin Frank, A.I.A. of Columbus, Ohio has specified and used Macomber Steel Building Products for many of his projects.

He has found a winning team in working with the Don M. Casto organization and the Howard S. Sterner Co., the Columbus Macomber representative who has expedited his steel and assisted all along the line as Consulting Structural Engineers.

Working together, this team has completed one large shopping center after another and expanded those completed in recent years to accommodate the patronage centered in these attractive units.

To any Architect and Builder anywhere, there is a message that pays dividends in the teamwork you can expect from your Macomber Representative. Call him for valuable assistance on your next steel building project.

ORIGINATORS OF THE OPEN WEB STEEL JOIST

STANDARDIZED STEEL BUILDING PRODUCTS

V BAR JOISTS • LONGSPANS STEEL TRUSSES • STEEL DECK

MACOMBER INCORPORATED

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• ENGINEERING • FABRICATING AND ERECTING •

KENFLEX
VINYL TILE

combines every flooring advantage in one beautiful floor

PROOF THAT KENFLEX IS A TRULY SUPERIOR FLOOR

Thirteen years ago a test installation of KenFlex was made at the entrance to the elevators in New York's Union Carbon and Carbide Building.

Over 13,000,000 people have since walked over this KenFlex Floor and even with this heavy foot traffic, the KenFlex installation is still as smooth and attractive as the day it was installed.

New KenFlex is the result of years of experimenting and development by the Kentile, Inc. laboratories. It is made of asbestos, vinyl resins, plasticizers and selected color pigments . . . resulting in a long-lasting floor that is ideal for any use in any room. KenFlex increases the value of homes . . . the appeal of stores and shops . . . with its superior beauty and greater wearability. KenFlex is extremely resistant to grease . . . can't be harmed or stained by fruits and most other acids, inks and cleaning fluids. It is extremely easy and economical to maintain . . . never needs scrubbing . . . doesn't require waxing unless an extra-high gloss is desired.

Specifications and Technical Data

INSTALLATION

KenFlex can be installed over any smooth, firm interior surface . . . wood, plywood, radiant heated concrete slabs, even over concrete in contact with the earth . . . on or below grade.

THICKNESSES

Laboratory and on-floor usage tests have *proven* that vinyl has great durability and wear resistance. Therefore, standard gauge (1/16") is recommended for normal residential and commercial uses. Where exceptionally heavy traffic is expected, 1/8" gauge is recommended.

INSTALLED PRICES

Prices range from 40c per sq. ft. to 65c per sq. ft. depending on which of the thicknesses is chosen—for minimum area of 1000 square feet over cement underfloor.

SIZE

Standard tile size is 9" x 9". Also available are 9" x 9" decorative ThemeTile and 1" x 24" Feature Strip.

For more information on KenFlex consult the KENTILE, INC. *Flooring Contractor, a trained and experienced expert, fully qualified to aid you in choosing the proper floor for every residential, commercial and industrial installation. For his name and address, look under* FLOORS *in your Classified Phone Directory.*

KENTILE, INC., 58 Second Ave., Brooklyn 15, New York • 350 Fifth Ave., New York 1, N. Y. • 705 Architects Bldg., 17th and Sansom Sts., Philadelphia 3, Pa. • 1211 NBC Bldg., Cleveland 14, Ohio • 900 Peachtree St. N.E., Atlanta 5, Ga. • 2020 Walnut St., Kansas City 8, Missouri • 4532 South Kolin Ave., Chicago 32, Ill. • 4501 Santa Fe Ave., Los Angeles 58, Calif.

Colorful as a peacock

New KenFlex colors have a brighter beauty . . . won't dim, fade or wear off . . . colors go clear through to the back of each durable tile.

At left, KenFlex sets the inviting color scheme of a restaurant with tile of Desert Sand, Bikini Blue and Star ThemeTile.

Below, a KenFlex Floor unifies a kitchen-dinette area. The glowing KenFlex colors are Lime Green, Shannon Green and White Ivy.

PRODUCERS' COUNCIL

KENFLEX

VINYL TILE

TRADE MARK

By the makers of Kentile

KENTILE, INC., *Makers of*

KENTILE ASPHALT TILE

SPECIAL (greaseproof) KENTILE

KENCORK FLOORS and WALLS

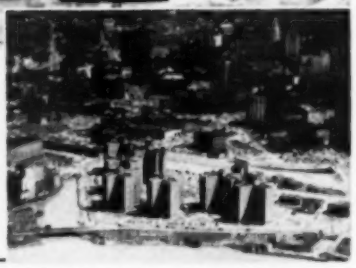
KENRUBBER TILE FLOORS

KENFLEX VINYL TILE

BUFFALO'S LARGEST PUBLIC HOUSING—

Dante Place

DANTE PLACE
PROJECT
Buffalo, New York



—is 100% equipped with AllianceWare Bathtubs

ARCHITECTS: Backus, Crane & Love, Buffalo, New York
PLUMBING CONTRACTORS: Carl E. Grimm and Henry M. Deckert, Inc., Buffalo, New York

This seven-building Dante Place project containing 616 dwelling units has been completed recently in Buffalo, New York.

In these buildings every bathroom has an AllianceWare bathtub. A total of 816 tubs were installed—making the installation 100% AllianceWare.

You'll find AllianceWare in the largest projects. You'll find AllianceWare in the finest apartments and hotels. You'll also find AllianceWare in both pretentious and modest homes, and you'll find AllianceWare in remodeled bathrooms of old homes.

That's because AllianceWare—porcelain-on-steel is designed to meet modern building needs. Lighter in weight for easier handling and easier installation. Porcelain-on-steel to assure a lustrous, stainproof, glistening, glass-hard surface. Formed steel to provide exactness of dimensions and to avoid useless, unnecessary weight. Five beautiful colors—as well as white—to meet the ideas of the most color-conscious.

Whether for an extensive housing project, luxury hotel or apartment, or for homes of any size—the outstanding qualities of AllianceWare make it preferred by many leading architects and builders. Write for complete information describing AllianceWare—porcelain-on-steel.

ALLIANCEWARE, INC. • Alliance, Ohio
Bathtubs • Lavatories • Closets • Sinks

AllianceWare
PORCELAIN ON STEEL

The **duette** Custom Sliding Door Cabinet by Miami-Carey. (Model SD1820FL)

new duette! Miami-Carey's Sliding Door Bathroom Cabinet with Twin Compartments . . . twice as much storage space!

The **duette** DeLuxe Sliding Door Cabinet by Miami-Carey. (Model SD1818FL)

Finished in baked-on gleaming white enamel. Twin storage compartments and sliding mirror doors. For recess or wall-hung installation.

Here is a bathroom cabinet that's roomier, more beautiful than any you've seen before. It's the duette Sliding Door Cabinet by Miami-Carey, in four smart models—all so roomy, so brilliantly styled, so low in cost you can fit them perfectly into your plans, even for inexpensive homes!

Dollar for dollar, no other cabinet can match the *duette* for functional styling and utility. Mirror doors slide open at a finger's touch. Inside are twin compartments—more than *double* the storage space of most ordinary cabinets. *Room galore* for medicines, cosmetics, shaving needs, all the items that have a way of "cluttering" bathrooms short on storage space.

These new *duette* cabinets are ideal for new construction and remodeling. So ask your Miami-Carey dealer for all the facts—or mail coupon on other side of this page.

please turn the page ——▷

Specify freedom from topsy-turvy bathrooms . . . . . New duette by Miami-Carey

Available with or without tubular fluorescent light and shade, plus switch and electrical outlet.

Guaranteed by Good Housekeeping

MIAMI

Carey

MIAMI CABINET DIVISION—THE PHILIP CAREY MFG. CO[illegible]

they're all-new

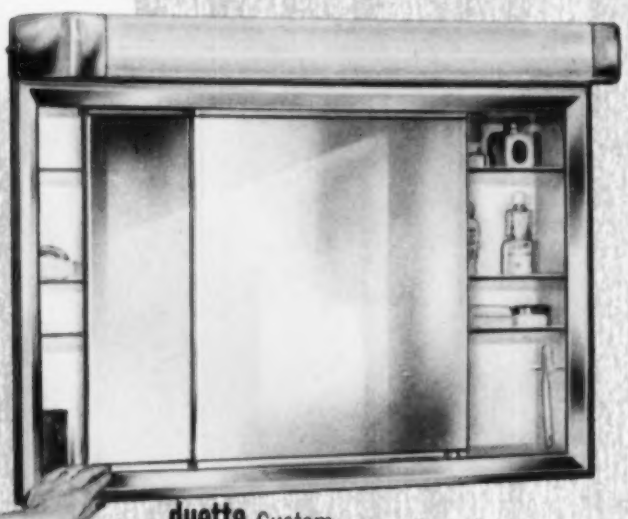
and crammed with sales-making features

new duette

SLIDING DOOR CABINETS

another leader from MIAMI-CAREY

- Twin Sliding Mirror Doors (mirrors first quality plate glass, copper protected)
- Fluorescent tubular light with shade, plus switch and electrical convenience outlet (optional)
- Twin Storage Compartments
- Stainless Steel Toothbrush Rack in each compartment (Custom models)
- Razor Blade Chute in each compartment (Custom and DeLuxe models)
- Crystal Glass Shelves (8 in Custom, 4 in DeLuxe)
- Easy to Install



duette Custom (Model SD1820FL) features fluorescent tubular light unit with curved translucent shade, plus switch and electrical convenience outlet; welded one-piece steel construction; snow-white baked enamel interior finish; Stainless Steel "picture frame" trim. Over 3450 cubic inches of storage space. For recessed mounting. Also available—*duette* Custom Model SD1820 without light unit.

• Overall Size:	Width	Height	Depth
Custom (without light)	38⅝"	23⅝"	5¼"
DeLuxe (without light)	36½"	25½"	6⅛"
Custom Light Fixture	38⅛"	2¼"	4⅛"
DeLuxe (with light)	36½"	28¼"	6¼" (without shade)

duette DeLuxe (Model SD1818FL) features fluorescent tubular light with matching metal shade, electrical outlet and switch—a lavish cabinet at a budget price. Beautifully finished inside and out in baked-on gleaming white enamel. For recessed or wall-hung installation. Also available—Model SD1818 without light unit.

Note: *duette* DeLuxe furnished in special colors if desired, when ordered in lots of 50 or more, at no extra charge.

Separate mirror and separate storage compartment for Him and for Her—no more "waiting turn"; no more bathroom clutter.

Mirror doors are framed in Stainless Steel, slide smoothly in specially designed metal channels. Each mirror door has aluminum back and Stainless Steel door pull. (*duette* Custom)

MAIL COUPON TODAY

Write Dept. A-10
for detailed information on new
duette Sliding Door Bathroom Cabinets by Miami-Carey

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CITY _____ STATE _____

MIAMI Carey

Miami-Cabinet Division—
The Philip Carey Mfg. Co.
Middletown, Ohio

Litho in U.S.A.

BATHROOM CABINETS • MIRRORS • MATCHING ACCESSORIES • KITCHEN AND ATTIC VENTILATING FANS

ARCHITECT BLANKETS 1067 FLORIDA HOMES with GOLD BOND

HERE are two very important reasons for "blanketing" your homes with Gold Bond Rock Wool Blankets:

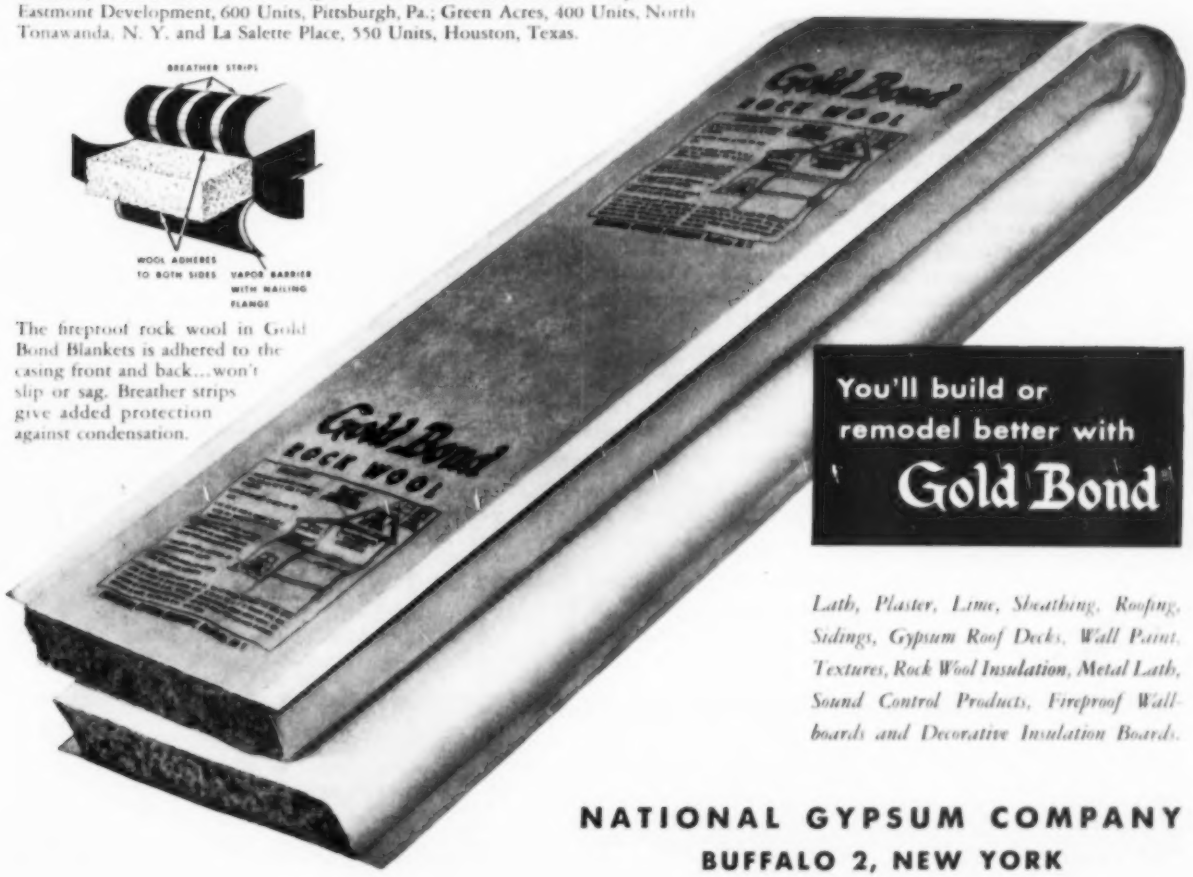
Top-Quality Performance. Gold Bond Rock Wool is resilient, has uniform density and a low "k" factor of .27. Its fibres are naturally and permanently incombustible. An inorganic material, Gold Bond Rock Wool is immune to decay, is not harmed physically by moisture, contains nothing to attract rodents or insects, is odorless and will not absorb odors.

Builders' Acceptance. Exclusive rugged construction reduces tear and damage in transit and on the job. Triple thick nailing flange. Gold Bond Sealed blankets are easier to handle, go up faster...come in 15", 19" and 23" widths and in three thicknesses: Full-, Semi- and Mat-Thick. They meet FHA requirements.

Write our Architect Service Department for samples and specifications.

Another 100% Gold Bond Rock Wool Insulation job—1067-unit Azalea Park, Orlando, Florida. Other recent 100% Gold Bond Rock Wool Insulation jobs are: Eastmont Development, 600 Units, Pittsburgh, Pa.; Green Acres, 400 Units, North Tonawanda, N. Y. and La Salette Place, 550 Units, Houston, Texas.

The fireproof rock wool in Gold Bond Blankets is adhered to the casing front and back...won't slip or sag. Breather strips give added protection against condensation.



You'll build or remodel better with Gold Bond

Lath, Plaster, Lime, Sheathing, Roofing, Sidings, Gypsum Roof Decks, Wall Paint, Textures, Rock Wool Insulation, Metal Lath, Sound Control Products, Fireproof Wallboards and Decorative Insulation Boards.

NATIONAL GYPSUM COMPANY
BUFFALO 2, NEW YORK

Meet all electrical "specs" with Youngstown Buckeye Conduit!

CONTRACTOR TELLS WHY HE'S FOR BUCKEYE: "When wiring homes, I refuse to take short cuts. That's why I use Youngstown Buckeye rigid steel conduit. That's the conduit approved for all types of building construction and occupancy—for tomorrow's demands as well as today's. Buckeye gives wiring complete protection. Home owners like to know that."

LISTEN TO THIS CONSULTING ELECTRICAL ENGINEER: "Only full weight standard threaded rigid steel conduit is approved by the Code as moisture, dust and explosion proof for use in hazardous locations. That's why I always specify Youngstown Buckeye conduit. In addition, I find that the strength and permanence of Buckeye conduit is appreciated by builders."

Youngstown manufactures full weight standard threaded rigid steel conduit from start to finish. This assures better steel and consistency of quality in manufacture. Only top grade steel gives complete long term protection. When you buy or specify Youngstown Buckeye conduit, you know you're meeting all construction requirements.

Shipments of Buckeye rigid steel conduit are now being made from our conduit mills at Indiana Harbor and Youngstown.

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THE YOUNGSTOWN SHEET AND TUBE COMPANY

Manufacturers of Carbon, Alloy and Yoloy Steel

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PIPING RUNS INSTALLED

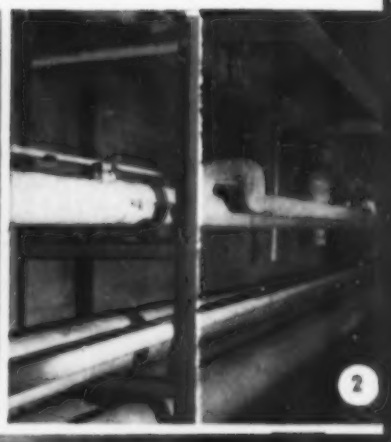
Better, Faster, for Less...

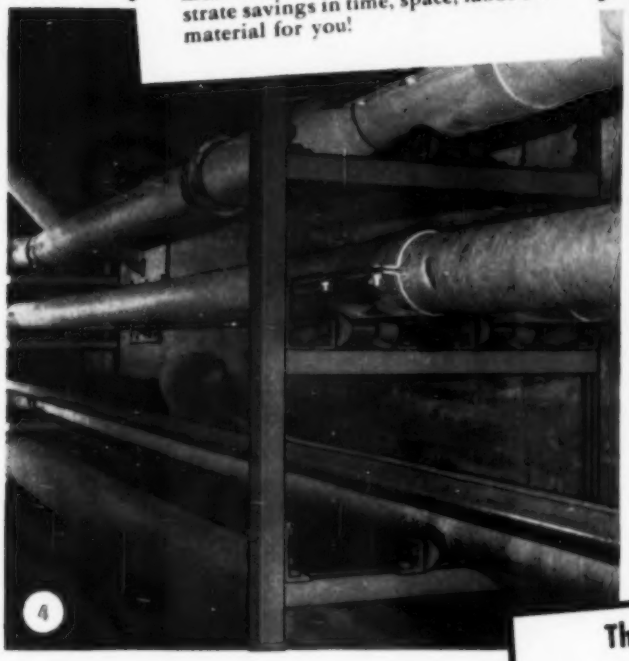
with adjustable

UNISTRUT®

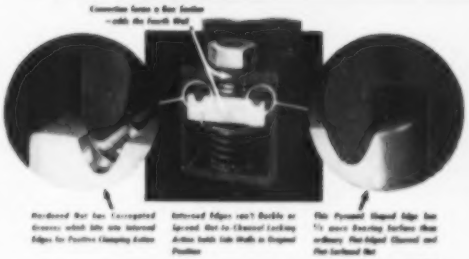
METAL FRAMING

All-purpose construction material assures exact slope or pitch, permits changes or additions at any time. Easy to erect—no special tools or equipment needed. Let UNISTRUT demonstrate savings in time, space, labor and material for you!





Only the UNISTRUT Framing System has this Positive Clamping Action at all Points of Connection!



1 Note how UNISTRUT framework's great strength easily supports long runs of heavy piping, including bulky 16" chilled water lines.

2 Typical piping installation supported by UNISTRUT framing, concrete inserts and roller pipe supports. Slotted channel permits attachment of fittings at any desired point.

3 Steamline showing method of supporting pipe at expansion joints. Note pipes are supported above and below with UNISTRUT pipe rollers.

4 Tunnel job showing how UNISTRUT continuous run concrete inserts can be installed vertically or horizontally, or at any angle required.

UNISTRUT Products are Bonderized

Distributors and Warehouse Stocks in Principal Cities. Consult your Telephone Directories.

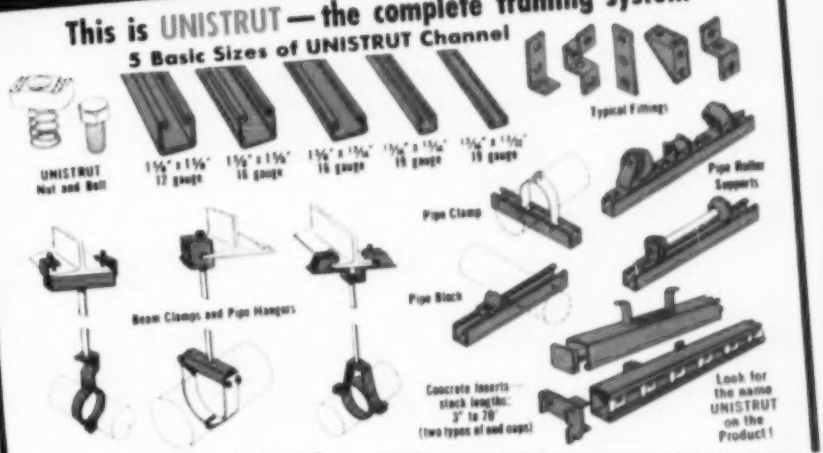
See our Catalog in Sweet's 1953 Plant Engineering, Industrial Construction and Architectural Files.

U. S. Patent Numbers

2327587	2329815	2345650
2363382	2380379	2405631
2541908	Other Patents Pending	

This is UNISTRUT — the complete framing system

5 Basic Sizes of UNISTRUT Channel


UNISTRUT Nut and Bolt
1⅝" x 1⅝" 12 gauge
1⅝" x 1⅝" 14 gauge
1⅝" x 1⅝" 16 gauge
1⅝" x 1⅝" 18 gauge
1⅝" x 1⅝" 10 gauge
Typical Fittings
Pipe Roller Supports
Pipe Clamp
Pipe Block
Beam Clamps and Pipe Hangers
Concrete Inserts stock lengths: 3" to 20" (two types of end caps)
Look for the name UNISTRUT on the Product!

Typical stock channel, parts and fittings.

Write for NEW Free 84-page Pocket Catalog No. 800!

For the Man on the Job—packed with photos, drawings, ideas and data on how to frame, mount, rack and support electrical and mechanical equipment with UNISTRUT metal framing.

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Please send me a copy of the new Catalog 800, without obligation.

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The World's Most Flexible All-Purpose Metal Framing

Then... as today!

Architects Create America's Finest Stucco Homes with MEDUSA WHITE

Consider this important fact: Medusa White, the original white portland cement, has been used by architects in America's finer stucco homes for forty-six years. No other white cement has such a service record. Consequently when you use Medusa White for stucco you know in advance that you are going to get a white cement that is dependable . . . diamond blue white in color—not pink—not yellow . . . that can be tinted to any color you desire. Furthermore, Medusa White's exceptional plasticity enables you to attain a stucco finish that harmonizes with other building materials.

Stucco made with Medusa Waterproofed White Portland Cement has amazing, non-staining properties. Water-carrying dirt is repelled at the surface instead of being absorbed into the stucco leaving a stain when it evaporates. For Finer Stucco you can depend upon Medusa White!

THE ORIGINAL WHITE PORTLAND CEMENT

You can build BETTER with MEDUSA PRODUCTS

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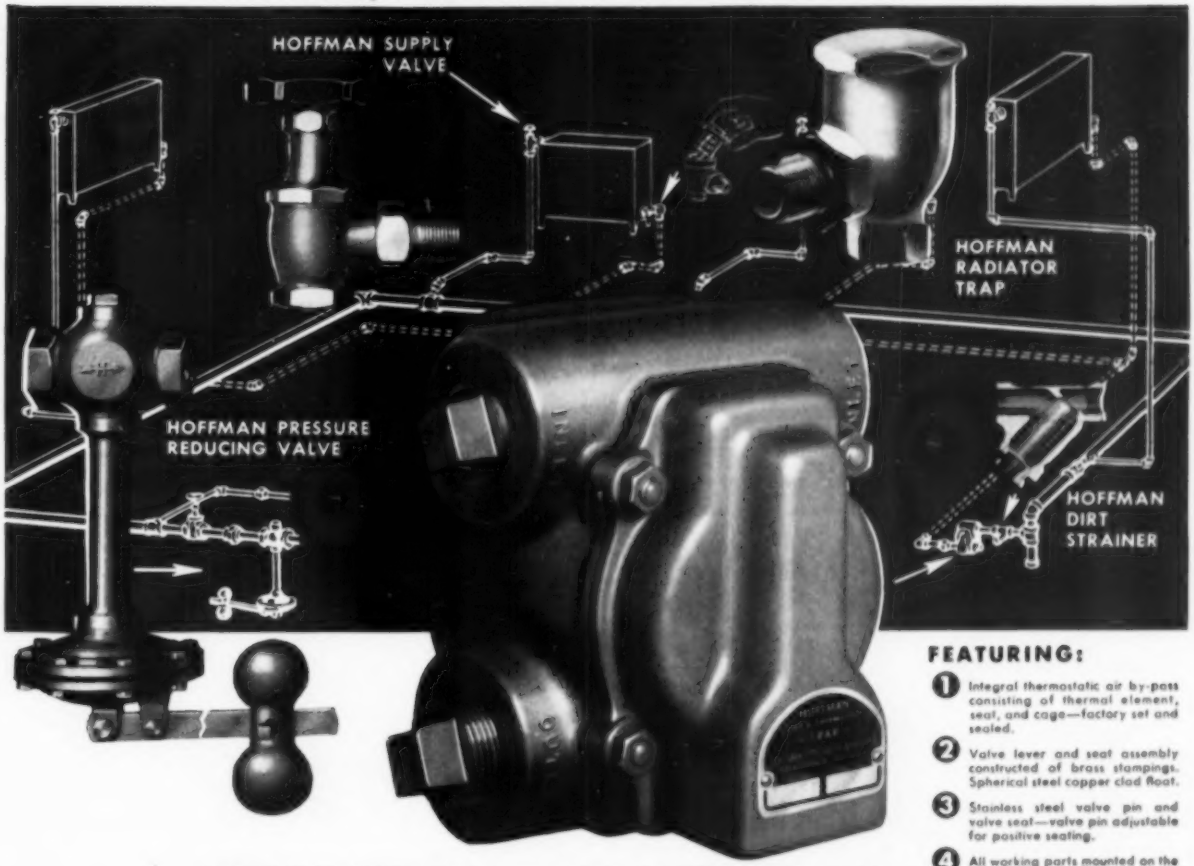
HOFFMAN NEW 50 SERIES

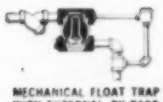
FLOAT and FLOAT & THERMOSTATIC TRAPS

LOW, MEDIUM and HIGH PRESSURE



FEATURING:

1. Integral thermostatic air by-pass consisting of thermal element, seat, and cage—factory set and sealed.
2. Valve lever and seat assembly constructed of brass stampings. Spherical steel copper clad float.
3. Stainless steel valve pin and valve seat—valve pin adjustable for positive seating.
4. All working parts mounted on the cover for easy accessibility—no pipe connections to break.



MECHANICAL FLOAT TRAP WITH EXTERNAL BY-PASS

FOR PIPE COILS

FOR UNIT HEATER

HOFFMAN 50 SERIES FLOAT and FLOAT & THERMOSTATIC TRAPS

Sizes: ¾" to 2" **Pressures: ½ lb. to 125 lb.**

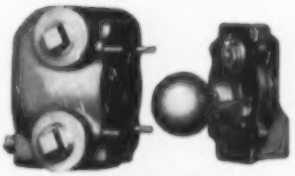
Again Hoffman provides industry with an improved product, refined to *function more effectively and economically in removing condensate.*

Hoffman engineers thus anticipate industrial steam heating trends that demand less maintenance and operating costs.

The new 50 Series Float and Thermostatic Trap has an integral thermostatic air by-pass consisting of thermal element, seat, and cage, factory set and sealed assuring dependable service and easy maintenance.

The same fine Hoffman quality and precision workmanship prevails in these traps as in the other Hoffman heating specialties. The valve lever and seat assembly is constructed of durable brass stampings. The spherical float is copper clad steel. The valve pin, adjustable for positive seating, and the valve seat are made of stainless steel. Sizes are available from ¾" to 2"—pressure requirements of ½ lb. to 125 lb.

If you are planning to install low, medium or high pressure Float or Float and Thermostatic Traps on storage tank heaters, tankless heaters, converters, blast coils, or for discharging high pressure returns into low pressure steam mains of 1 or 2 pipe systems, it will pay you to ask for Hoffman's new illustrated catalog sheet, available upon request.



LOW MAINTENANCE COST

50 Series Float and Thermostatic Traps have cover construction so designed that all working parts of the trap are readily accessible. Once installed there is no necessity for the breaking of any pipe connection as all cleaning and repairing can be made by removing the cover of the trap.

HOFFMAN STEAM SPECIALTIES

HOFFMAN SPECIALTY MFG. CORP.

VALVES, TRAPS, VACUUM AND CONDENSATION PUMPS, FORCED HOT WATER HEATING

1001 York St., Indianapolis 7, Ind.

SYSTEMS Sold by leading Wholesalers of Heating and Plumbing Equipment

How Honeywell Customized

Temperature Control can help you

Give your clients the control they need

Why a customized control system is becoming a "must" for all types of buildings

It's as true for any kind of building—of any size—as it is for a motel:

It's important to recognize the value of *proper* temperature control.

Here's what's needed to give your clients proper control—resulting in genuinely modern comfort or new industrial efficiency, or both:

Enough controls of the *right* kind, *properly* installed—and backed by a dependable service organization.

That's a taller order than a lot of people seem to think. And it's just the spot to call on Honeywell Customized Temperature Control.

The key word here is "customized." This means that whatever your clients' control requirements, a Honeywell Customized Temperature Control System *designed to their needs* is your answer. This applies to heating and cooling, ventilation and humidity control, as well as industrial control.

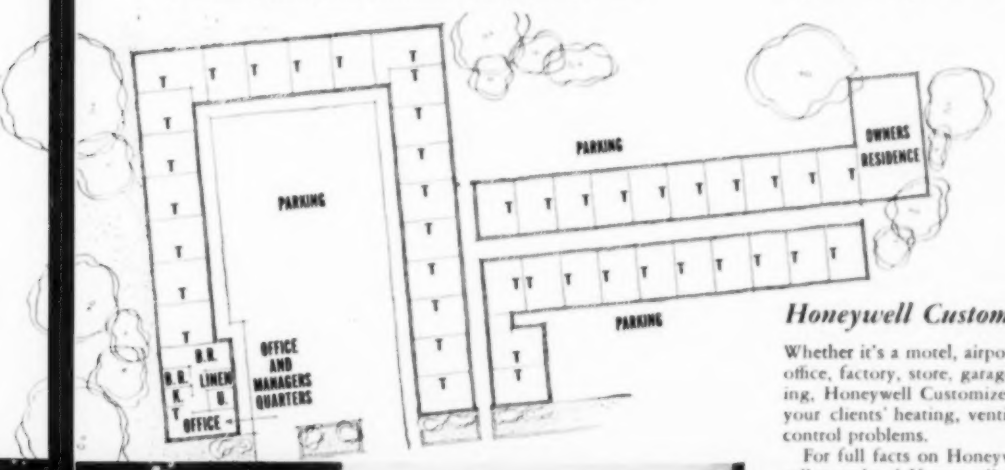
The story, in brief, of how Honeywell Customized Temperature Control was used to solve specific occupancy, use and exposure problems in the Oregon Motel in Eugene, Oregon, is told under the pictures at right.

The *techniques* used, applied to your clients' particular problems, could readily be the solution to their problems.

Customer-eye-view of the Oregon Motel, located on the outskirts of Eugene, Oregon. Every guest room of the motel is equipped with a Honeywell thermostat.

Every guest room in the Oregon Motel is equipped with its own thermostat, as indicated by the T's on the floor plan below. The main reason this was done was to give guests personal control over their own comfort—a big factor in the motel business. For as the motel business becomes more competitive, guests can and do demand even greater comfort. This problem can be met, easily and completely, by installing Honeywell Customized Temperature Control.

Other important problems solved with a separate Honeywell thermostat and radiator valve in each room include exposure and occupancy factors. Rooms on the south receive more winter sunshine, require less heat than rooms on the north. Individual thermostats easily meet this problem by calling for just the right amount of heat on an *individual* room basis. And when rooms are unoccupied, temperatures may be cut back to save fuel.



For comfortable, even temperature in new or existing buildings—of any size—use

Honeywell Customized Temperature Control

Whether it's a motel, airport, hospital, apartment, church, school, office, factory, store, garage—or any size building—new or existing, Honeywell Customized Temperature Control can help meet your clients' heating, ventilating, air conditioning and industrial control problems.

For full facts on Honeywell Customized Temperature Control, call your local Honeywell office. There are 104 Honeywell offices across the nation. Or mail the coupon today.

Walter Dennis, owner of the Oregon Motel, says:

"Since installing Honeywell Customized Temperature Control, fuel bills have been 40% lower and occupancy has increased 9%. It's not hard to see why I like the installation. I like concrete results—and that's just what I got."

MINNEAPOLIS
Honeywell

First in Controls

MINNEAPOLIS-HONEYWELL REGULATOR CO.
Dept. PA-10-203, Minneapolis 8, Minnesota

Gentlemen:
I'm interested in learning more about Honeywell Customized Temperature Control.

Name .....

Firm Name .....

Address .....

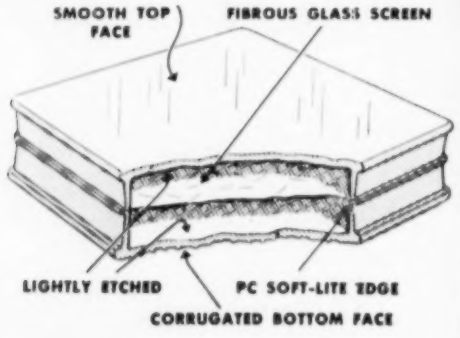
City ..... *Zone* ..... *State* .....

Pour daylight through the roof . . .

with SKYTROL* Glass Blocks

SKYTROL Glass Block panels bring light in the *natural* way—from the ceiling. They brighten the farthest reaches of the room.

SKYTROL blocks are flexible. They can be laid right on the job and require no special orientation. The architect is free to create practical toplighting panels of virtually any size.



DIMENSIONS: 3⅞" THICK X 11¾" X 11¾"

*T.M. Reg. Applied for

● Today's trend is toward one-story buildings. As building design tends to "flatten-out," daylighting becomes a problem in the interior rooms.

The logical answer . . . *toplighting.*

SKYTROL Glass Blocks will insure that even the innermost rooms are bathed in daylight. One small six-block-wide panel puts thirty foot candles on a working surface eight feet from the panel centerline even on an *overcast* day.

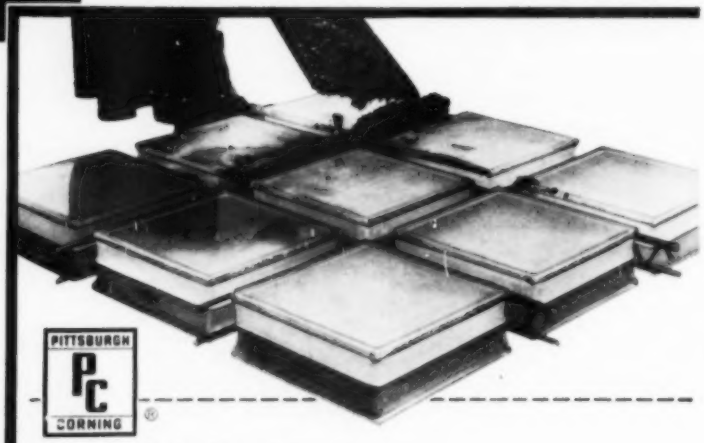
But even more important than the quantity of light is the excellent *quality* of the light that pours in from SKYTROL panels. Here is light that is glare-free; without highlights or uncomfortable brightness . . . light that is almost shadowless. SKYTROL Glass Blocks gather in raw, harsh sunlight; then they bend it and *diffuse* it until it is perfectly conditioned for all seeing tasks.

A fibrous glass diffusing screen that divides the block into two halves is the key to its solar heat gain control. The double cavity thus created provides an insulation value better than most uninsulated roof constructions. This virtually eliminates condensation problems.

There are a lot of interesting things we'd like to tell you about SKYTROL. Just fill in the coupon.

Pittsburgh Corning Corporation

PITTSBURGH, PENNSYLVANIA



PITTSBURGH PC CORNING ®

Pittsburgh Corning Corporation
Dept. AC-103, One Gateway Center
Pittsburgh 22, Pa.

Send me more information on PC SKYTROL Blocks for toplighting.

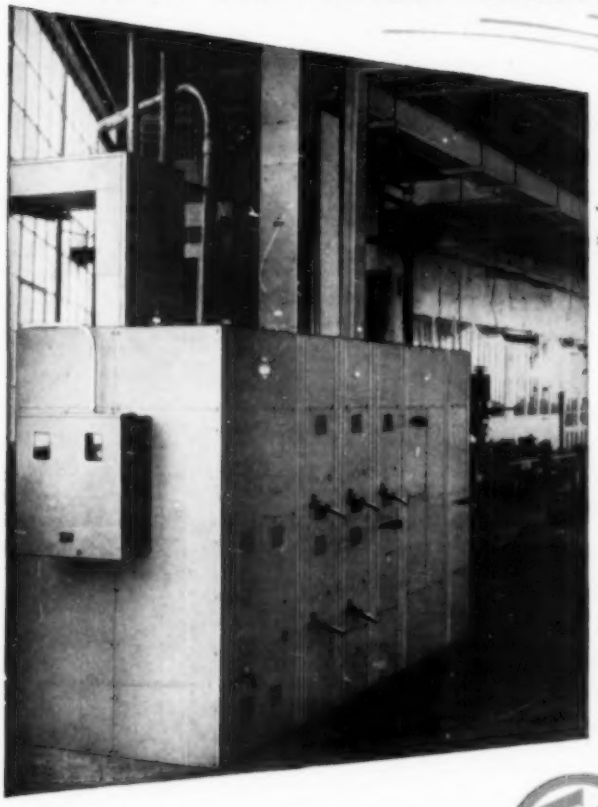
Name .....

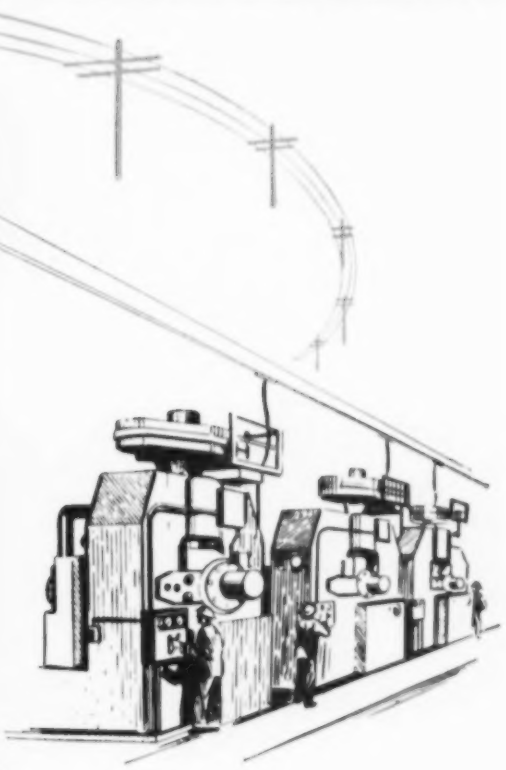
Firm .....

Address .....

City ..... Zone .... State .....

From Service Entrance to Machine



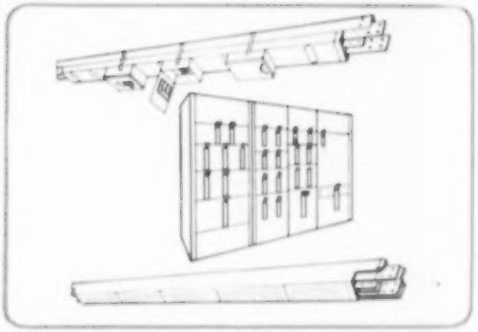


. . . it's FA all the Way!

AND FOR GOOD REASON. For more than 60 years FA has been producing quality products that are serving the needs of industry all along the production line — from service entrance to machine — electrical products that have been proven and time-tested to give maximum safety and performance.

If power and light distribution is a problem in your business . . . if you want products that are modern in design, rugged in construction, easy to install, economical to operate, and give long-lasting, trouble free service, then do as scores of others have done — install FA *all the way.*

For complete information about all FA products, contact your nearest FA representative, listed in Sweet's, or write to Headquarters.



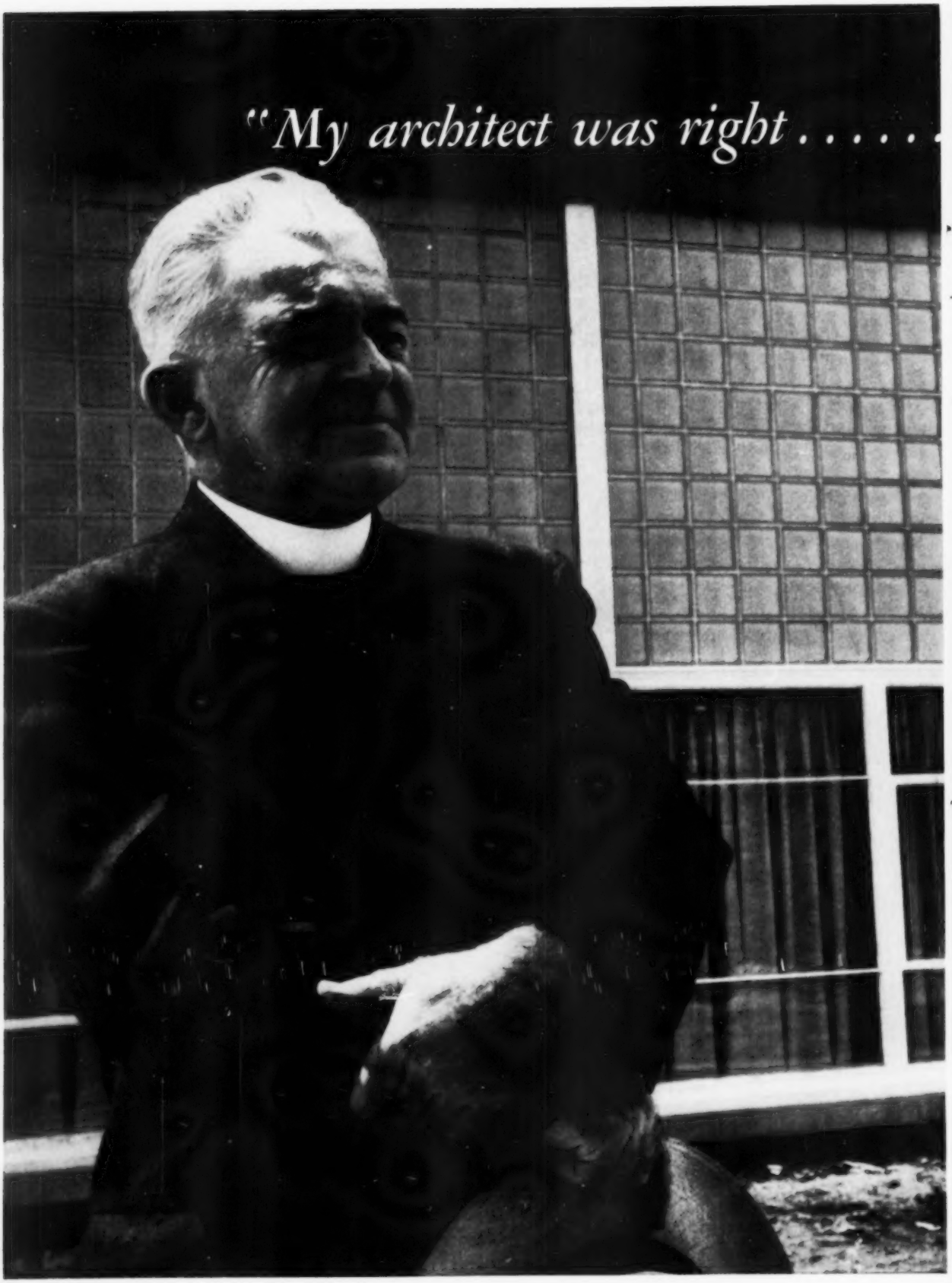
A typical FA Installation is shown in the photo above (top left). Features include FA High Efficiency busduct to bring power into the plant from service entrance, a FA dead front Switchboard, and FA Power Plugin to carry power to machines.

Frank Adam Electric Co

P. O. BOX 357 ST. LOUIS 3, MISSOURI

Our 61st Year

Makers of BUSDUCT • PANELBOARDS • SWITCHBOARDS • SERVICE EQUIPMENT • SAFETY SWITCHES • LOAD CENTERS • QUIKHETER


"My architect was right . . . . . .

.. PC Glass Blocks give ideal daylighting,"

says Reverend John A. McSweeney, Pastor, Our Lady of Monadnock Academy, East Jaffrey, N. H.

• Without question, this is one of the most attractive and useful schools ever constructed. It was built in 1951 for a cubic foot cost of only 82¢.

Reverend McSweeney says, "Our Teachers think this is the finest building they ever taught in because of the excellent light characteristics of the glass block panels. During a long, cold New Hampshire winter, our classrooms were extremely comfortable because the glass blocks are such good insulators. Reduced heating cost is one thing we can count on.

"Maintenance of the glass blocks is obviously not going to be a problem. We expect to hose them down once, maybe twice a year."

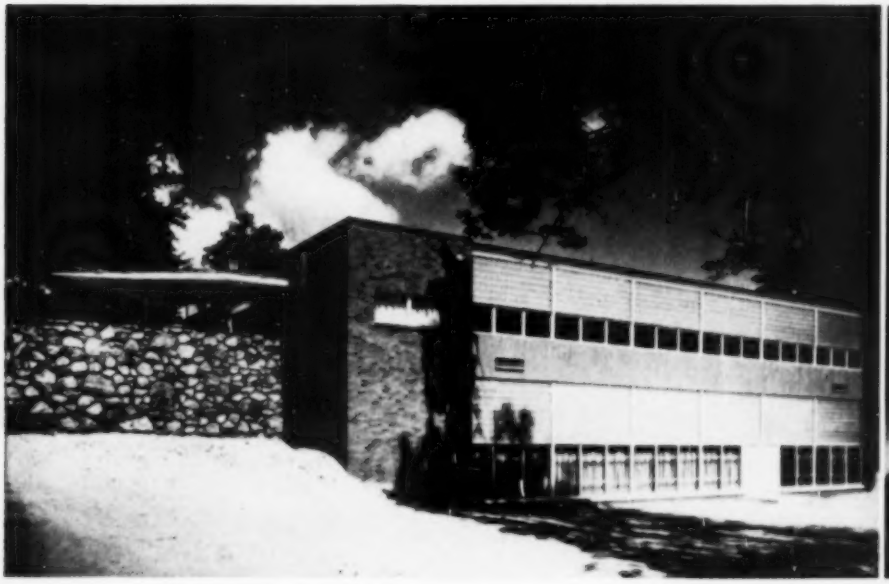
Be sure *you* know the PC Glass Block story before you build or remodel your next school. No other building product will give your client so much for his money.

Send the coupon for more information.

Pittsburgh Corning Corporation

PITTSBURGH, PA.

Perley F. Gilbert Associates, Inc., Lowell, Mass. Herbert H. Glassman, A. I. A., *Chief Architect.* Edmund E. McMahon, *Project Architect.*



Here's what you get with PC Glass Blocks

BETTER DAYLIGHTING — Functional patterns direct daylight to reflective ceiling, or distribute it uniformly throughout the room.

REDUCED HEATING & COOLING COSTS—Glass block panels have insulating efficiency of 8-inch masonry wall.

LOWER WINDOW MAINTENANCE COSTS—Glass block panels seldom have to be washed. Breakage is rare. There is nothing to paint.

NO "EXTRA" EXPENSE—Unlike conventional windows, panels of PC Functional Glass Blocks seldom if ever need expensive shades, blinds or louvres.

NO DIRT INFILTRATION — A glass block panel is an integral part of your building wall. Tight mortar joints seal out moisture, dirt.

LESS OUTSIDE NOISE — PC Glass Blocks are hollow. Internal dead air spaces reduce sound transmission.

PITTSBURGH PC CORNING ®

Pittsburgh Corning Corporation
Dept. AC-103
One Gateway Center
Pittsburgh 22, Pa.

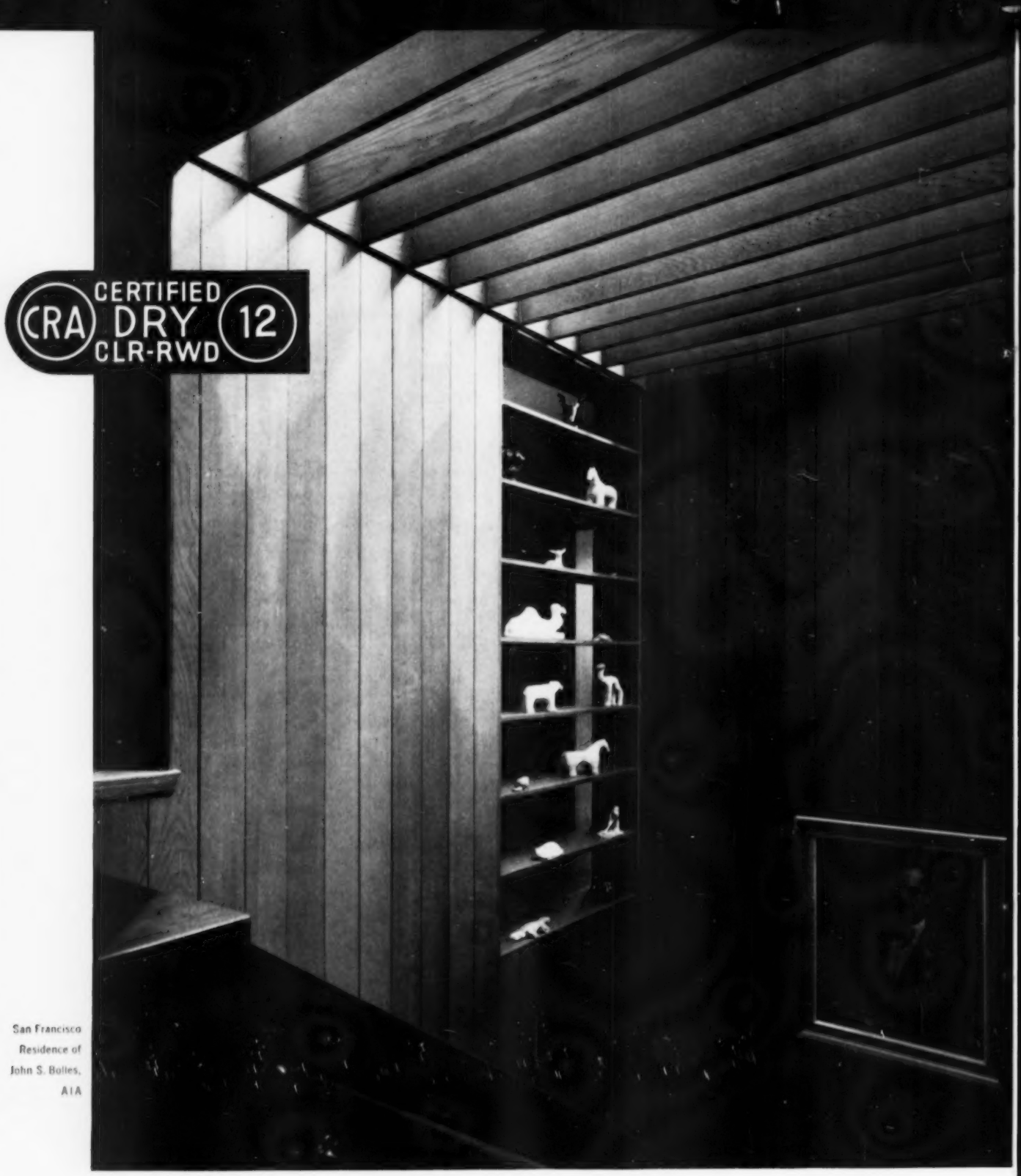
Without obligation on my part, please send me your FREE booklet on the use of PC Glass Blocks in public, commercial and industrial structures.

Name ..... Title .....

Firm .....

Address .....

City ..... Zone ... State .....



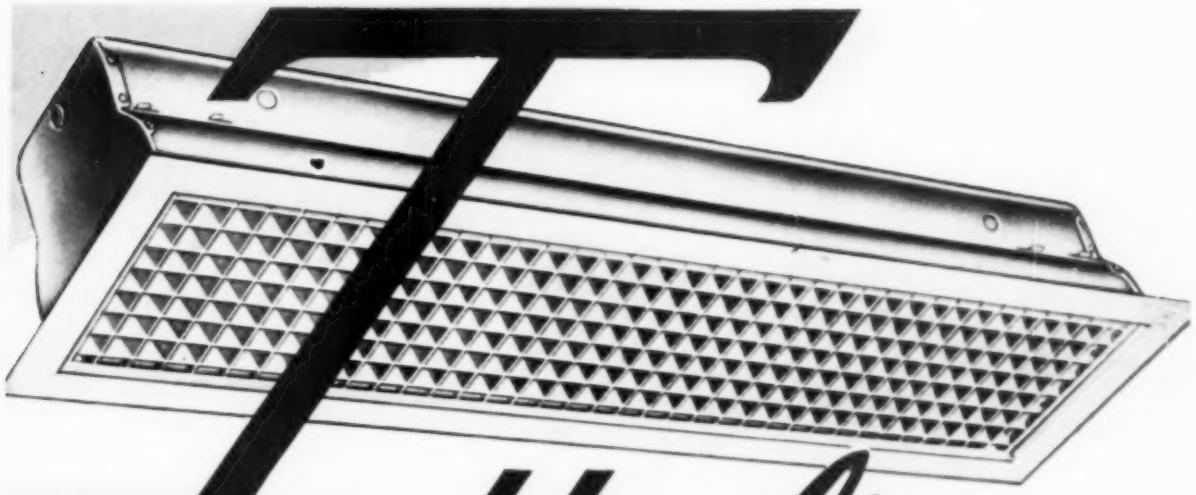
San Francisco Residence of John S. Bolles, AIA

for dramatic design... SPECIFY CRA REDWOOD

California Redwood, with its infinite variety of colors, textures and grain patterns, is an ideal material for unusual architectural effects. The wise architect assures these effects by specifying CRA Redwood — the grade-marked, trade-marked Redwood that delivers uniform quality, beauty and performance every time.

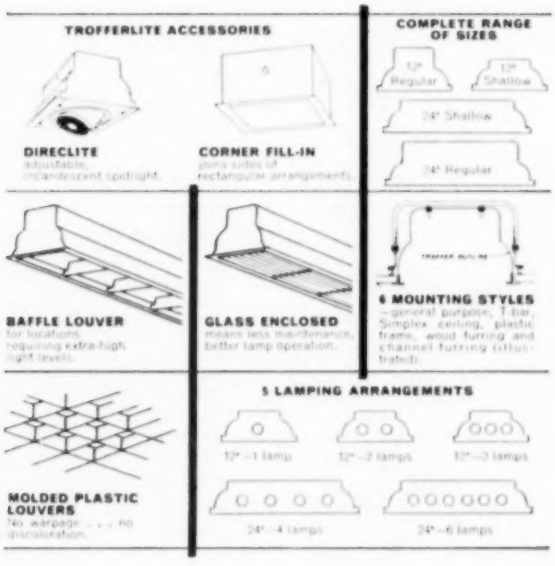
CALIFORNIA **REDWOOD** ASSOCIATION • 576 Sacramento Street, San Francisco 11

CRA members: Union Lumber Co • Warm Springs Redwood Co • Willits Redwood Products Co • Wolf Creek Timber Co, Inc • Arcata Redwood Co • Coastal Plywood & Timber Co • Eureka Redwood Lumber Co • Hammond Lumber Co Holmes Eureka Lumber Co • Hulbert & Muffly Lumber Mill • Northern Redwood Lumber Co • Pacific Lumber Co • Rockport Redwood Co • Simpson Logging Co



RECESSED Trofferlites

for Interiors of Distinction



Versatility *plus* efficiency and distinctive appearance . . . that's *Trofferlite*. Offices, stores and commercial establishments of all kinds take on a new look of distinction with these trim, slender units which appear to be a part of the ceiling. There is no limit to the variety of designs, arrangements and architectural effects you can achieve with these recessed Troffers. They are available in a wide range of styles and sizes, in individual units or continuous rows, as shown at left.

For Interiors of Distinction, specify Versatility "*Plus*" . . . specify recessed *Trofferlites*. Complete catalog data sheets sent on request.

BENJAMIN

Exclusive licensee of the Leader Line in Canada:
Robertson Irwin Limited, Hamilton, Ontario

Leader Line

Sold Exclusively through Electrical Distributors

Benjamin Electric Mfg. Co., Leader Division, Dept. PA, Des Plaines, Illinois, also makers of famous Benjamin lighting equipment and sound signals for Industry, Institutions and Commerce.

Use
the MAGIC of HOT WATER HEATING
by
AMERICAN-Standard

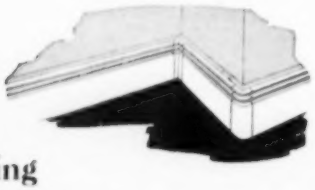
to give your clients cleaner, more uniform, more comfortable heat than any other system can offer

ADVERTISED IN LIFE

• More and more people are discovering that hot water heating is *not* old-fashioned. They've found that forced hot water heating, with baseboard panels, gives perfect comfort control with compact, efficient equipment.

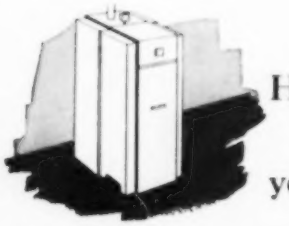
Offer your clients the magic of hot water for modern heating . . . and point out the importance of its tremendous heat-carrying capacity (water gives off 6000 Btu per cu. ft. as it cools 100°). This makes it possible for the small copper tube of a baseboard panel to throw a belt of protecting warmth clear around the cold outside rim of the house, regardless of its size or construction.

Your clients will want the heating system that's clean, draft-free, reliable and economical—hot water heating by American-Standard.



Hot water heating is modern in appearance . . .

Show your clients how easy it is to have an attractive installation like this in their homes. These Heatrim panels take the place of regular baseboards, permitting freedom of furniture arrangement. They will provide even, gentle heat *throughout* the room.



Hot water heating gives longer years of service . . .

To make your clients aware of the trouble-free years ahead for them when they have a hot water heating system, tell them of the wide variety of long-lasting cast iron boilers by American-Standard. And be sure to point out that the life of a cast iron boiler is far greater than that of other types of heating units.

The magic of hot water heating by American-Standard is the way to complete heating satisfaction . . . for the years ahead

AMERICAN-Standard
HEATING

American Radiator & Standard Sanitary Corporation, P. O. Box 1226, Pittsburgh 30, Pa.

Serving home and industry: AMERICAN-STANDARD · AMERICAN BLOWER · CHURCH SEATS & WALL TILE · DETROIT CONTROLS · KEWANEE BOILERS · ROSS EXCHANGERS

modern design and Canvas

Color, texture, grace, dramatic effect . . . these inherent values of modern design are economically achieved through the use of canvas. Light in weight, yet durable, canvas is adaptable to both permanent and demountable design and permits greater freedom in the use of glass by solving problems of solar heat control.

Walter Landor & Associates used canvas to outstanding advantage in the design of Joseph Magnin's Resort Fashion Store at Cal-Neva, Lake Tahoe.

FREE: Write today for our brochure on canvas applications. It contains original and practical ideas, plus helpful instructions for specifying canvas.

JOSEPH MAGNIN'S, Cal-Neva, Lake Tahoe

Designers: Walter Landor & Associates, Industrial Design, San Francisco

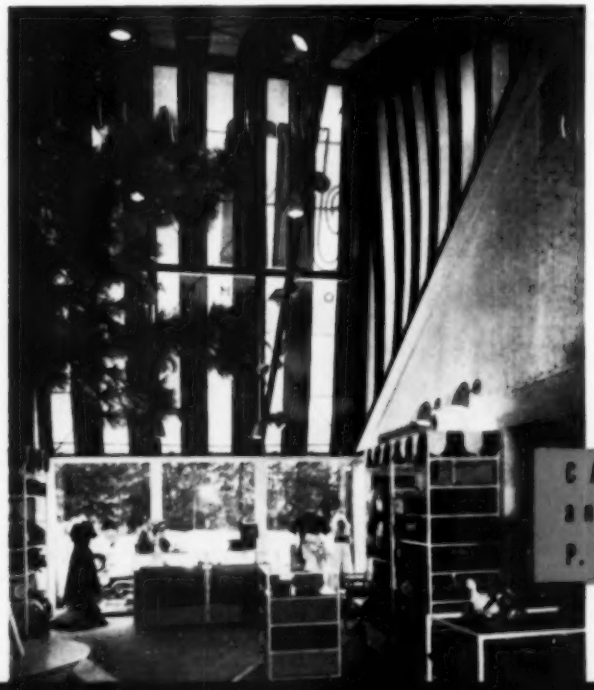
"We had a real construction problem in designing Joseph Magnin's Cal-Neva Store. The problem? Winter snows sometimes averaging 12 feet in depth,—summer season only two months long.

"Our solution? We conceived the Cal-Neva Store as a "Big Top" demountable canvas tent. Festive looking and cool in the heat of summer, the canvas roof and facade can be stored away in the wintertime. Thus, impressive savings resulted from the elimination of the need for heavy duty construction.

"This concept of the use of canvas afforded other spectacular advantages. Lighted from the inside at night the tent acts as an illuminated signboard visible from far away, creating a gala atmosphere tempting to shoppers in a holiday mood."

Walter Landor

Walter Landor & Associates
Industrial Design



CANVAS AWNING INSTITUTE
and NATIONAL COTTON COUNCIL
P. O. Box 1851 Memphis, Tennessee

THE CANVAS AWNING INSTITUTE INC.

Fishing is easy with

"XDUCT" CONDUITS

PROVED BEST BY ACTUAL FISH TEST!

Actual fishing tests conducted with five other leading brands of conduit prove "XDUCT" is 66% easier to fish on constant pull—more than *twice* as easy to start as other leading conduits.

Yessir, the *new* National Electric "XDUCT" Conduits fish *easier* than the five other leading brands of conduit on the market today. That's BIG news and we're mighty proud of it.

"XDUCT'S" new baked-on inside coating of aluminum enamel (patent applied for) was developed through intensive research in connection with vital government projects. It provides minimum friction between conduit wall and wires. The result: the easiest fishing ever offered to the electrical industry.

LISTED BY UNDERWRITERS' LABORATORIES, INC. • *SOLD BY LEADING ELECTRICAL*

But that's not all!

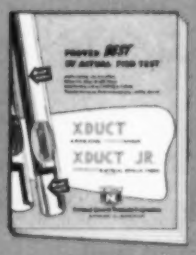
THE NEW "XDUCT" CONDUITS PROVIDE:

1. ***Better Corrosion Resistance.*** National Electric's revolutionary new patented electrogalvanizing process deposits electrolytically pure zinc *uniformly* over the entire outside surface of "XDUCT" conduit, *including the threads.* The result: a protective coating that adheres positively to the basic steel . . . possesses superior corrosion resisting qualities.

2. ***Thread Protection.*** Sharp, clean threads of "XDUCT" rigid steel conduit are machined *before* galvanizing to assure complete protection from end to end. The result: every hill and valley of threads are completely galvanized.

3. ***SUPERIOR Bending.*** High-ductile steel is used to assure easy bending.

4. ***Desirable Color.*** "XDUCT'S" silvery color is highly acceptable for installation in exposed locations.



FREE BOOKLET!

WRITE FOR THE FACTS. Send for your copy of this 24 page booklet giving full information on the new "XDUCT" Conduits and the amazing fishing tests described above. *Prove it to yourself!* Use the coupon.

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Good Hospital Design Includes

ARCHITECT-SPECIFIED DAY-BRITE LIGHTING FUNCTIONS AS AN INTEGRAL DESIGN ELEMENT IN MERCY HOSPITAL

The new Mercy Hospital in New Orleans is a credit to the architects who designed it . . . another of a growing number of really fine medical centers to come from architects' boards in the last decade.

Mercy Hospital is a good hospital because its designers rejected half-answers to problems that came up during its planning.

The lighting, for example. It might easily have been overlooked and underplanned because of the maze of specialized and difficult problems that always confront the hospital designer. It wasn't.

In Mercy Hospital, the lighting helps tremendously to create a pleasant, cheerful and comfortable atmosphere for the hospital staff, patients and visitors. The architects have used good lighting as a tool to heighten the value, efficiency and workability of a well-conceived circulation pattern. In each of its many applications, Mercy Hospital's lighting system was given a major job to do . . . and it does it well.

Favrot, Reed, Mathes & Bergman chose Day-Brite to get the one line of lighting equipment that matched the quality of their conception.

☆ ☆ ☆

Good lighting is a basic element of any form of good architecture.

The Day-Brite line is not a substitute for the thought and planning you give your lighting problems. But it is the one line of modern lighting equipment with the versatility . . . the clean, simple design . . . the quality of engineering and construction . . . the extremely low maintenance factor . . . that guarantee the effective results you want.

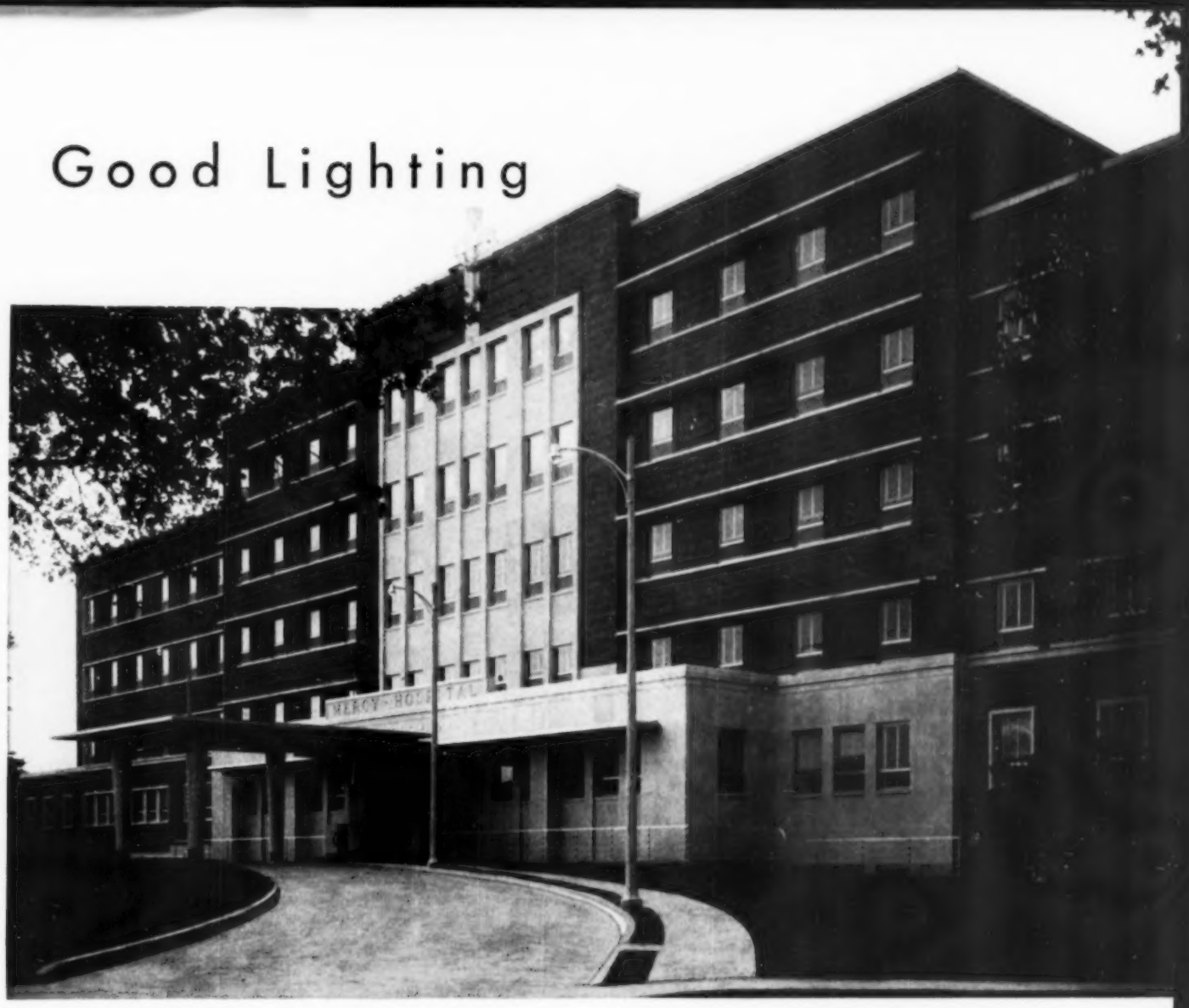
We invite your thorough investigation of Day-Brite equipment . . . and the claims we make for its superiority. We think your opinion—and decision—will be mutually beneficial to both of us.

The clean, smart lines of continuous rows of glass-enclosed Day-Brite troffers give a cheerful and distinctive appearance to the hospital entrance and corridors.

Day-Brite bed lamps provide soft, comfortable illumination in patients' rooms. These direct-indirect units are designed especially for hospital installation.

Service areas in Mercy Hospital are lighted with the famous Day-Brite VIZ-AID® fixtures. These modern, all-white units are efficient and easy to service and relamp.

Good Lighting



Mercy Hospital in New Orleans, Louisiana • Favrot, Reed, Mathes & Bergman, Architects
DeLaureal and Moses, Consulting Engineers • Farnsworth & Chambers Company, Inc., General Contractors

368

In major operating rooms, Day-Brite troffers provide peripheral lighting around the operating table to keep down brightness and shadow contrasts for surgeons.

In the hospital's kitchen, Day-Brite CFI DAY-LINE® industrial fixtures were used. Slotted reflectors permit 10% uplighting to reduce brightness contrast.

"DECIDEDLY BETTER"
DAY-BRITE
Lighting Fixtures

Day-Brite Lighting, Inc., 5405 Bulwer Avenue, St. Louis 7, Missouri. In Canada: Amalgamated Electric Corp., Ltd., Toronto 6, Ontario.

For insurance against noise

Thousands of square feet of J-M ▲ Sanacoustic are installed in the new Pan-American Life Insurance Co. building in New Orleans . . . a recent "Office of the Year" award winner.

A Johns-Manville Sanacoustic Ceiling provides quiet comfort and a cheerful atmosphere in the cafeteria of the new Pan-American Life Insurance Co. building.

. . . this insurance company installed Johns-Manville SANACOUSTIC*

J-M Sanacoustic is a highly efficient noncombustible acoustical unit ideally suited for institutional and commercial installations.

Johns-Manville, the pioneer in sound control, developed Sanacoustic to provide acoustical comfort, fire safety and easy maintenance for offices, cafeterias, schools, restaurants, auditoriums, hospitals, etc.

The complete Sanacoustic unit is manufactured by Johns-Manville. It consists of a perforated metal panel backed up with a noncombustible, sound absorbing element of high acoustical efficiency. J-M Sanacoustic Ceilings will not burn, rot or disintegrate. A baked-enamel finish makes them easy to keep clean. They may be applied over new or existing construction; and can be painted and repainted without loss of acoustical efficiency.

An exclusive J-M patented construction system permits interchangeability of flush-type fluorescent lighting and acoustical ceiling units.

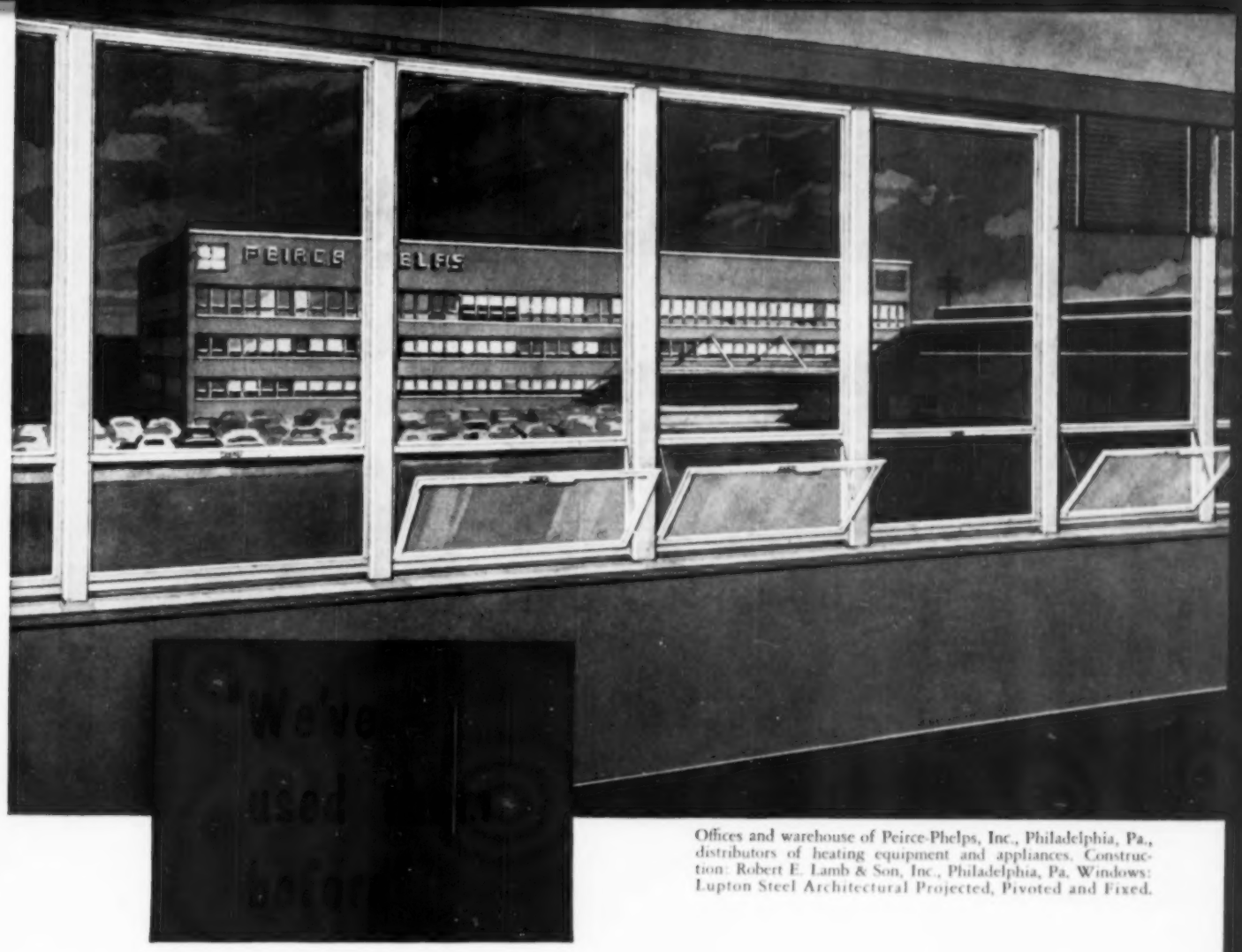
Other J-M Acoustical Ceilings include Fibretone*, a drilled fibreboard panel, Permacoustic*, a textured noncombustible tile, and perforated Transite* Acoustical panels. For a free brochure "Sound Control," write Johns-Manville, Box 158, New York 16, N. Y. In Canada, write 199 Bay Street, Toronto 1, Ontario.

*Reg. U. S. Pat. Off.

JOHNS-MANVILLE JM PRODUCTS

Johns-Manville

40 years of leadership in the manufacture of acoustical materials.



Offices and warehouse of Peirce-Phelps, Inc., Philadelphia, Pa., distributors of heating equipment and appliances. Construction: Robert E. Lamb & Son, Inc., Philadelphia, Pa. Windows: Lupton Steel Architectural Projected, Pivoted and Fixed.

Time after time, research into why a new building has Lupton Metal Windows reveals that the architects have "used them before . . . liked Lupton Windows . . . liked Lupton service . . . and liked Lupton prices".

Such was the case with the new Peirce-Phelps buildings in Philadelphia, with their 329 Architectural Projected Windows in the offices and the 378 Pivoted and Fixed Windows in the warehouse.

In the air-conditioned office section, costs were reduced by using a modified Standard Projected Window. Standard Lupton Projected Windows have two ventilators — a larger one opening out in the upper section and a smaller open-in ventilator below. By keeping only the lower ventilator and using a solid sheet of glass in the rest of the window, savings were made in window construction costs.

Helping you save costs in planning your window layouts is a Lupton service . . . through using standard units in unique ways.

You know what a reputation means . . . Lupton's has been growing for over forty years. It's built on quality and service. See the full line of Lupton Metal Windows in Sweet's. There's a standard unit ready, or adaptable, to any building you design . . . and Lupton Window Design Engineers are at your service.

MICHAEL FLYNN MANUFACTURING COMPANY
700 East Godfrey Avenue, Philadelphia 24, Pa.
Member of the Steel Window Institute and Aluminum Window Manufacturers' Assn.

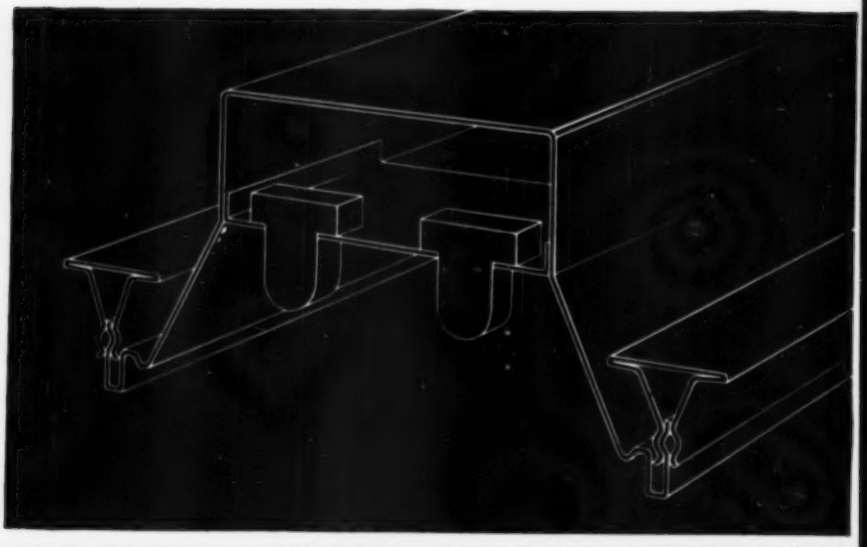
LUPTON
METAL WINDOWS

Architect: Benham, Richards and Armstrong, Columbus, Ohio

Contractor: Paul L. Gilmore Company, Columbus, Ohio

Warranty
LIGHTING FIXTURES

Look for this seal on your electrical contractor's guarantee. He installs them—we back him up.



Ceiling design

can dictate the lighting system

Recessed lighting was the best answer to the combined design, illumination and construction problem in the Columbus, Ohio, Farm Bureau Insurance Building. Large areas on all floors made ceilings seem lower than average. Detail work was involved. Better than average illumination, ventilation and comfortable, controlled temperature were essential.

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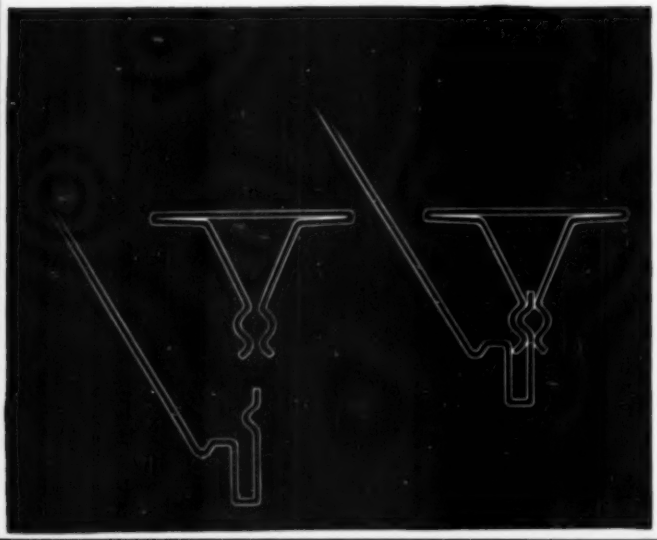

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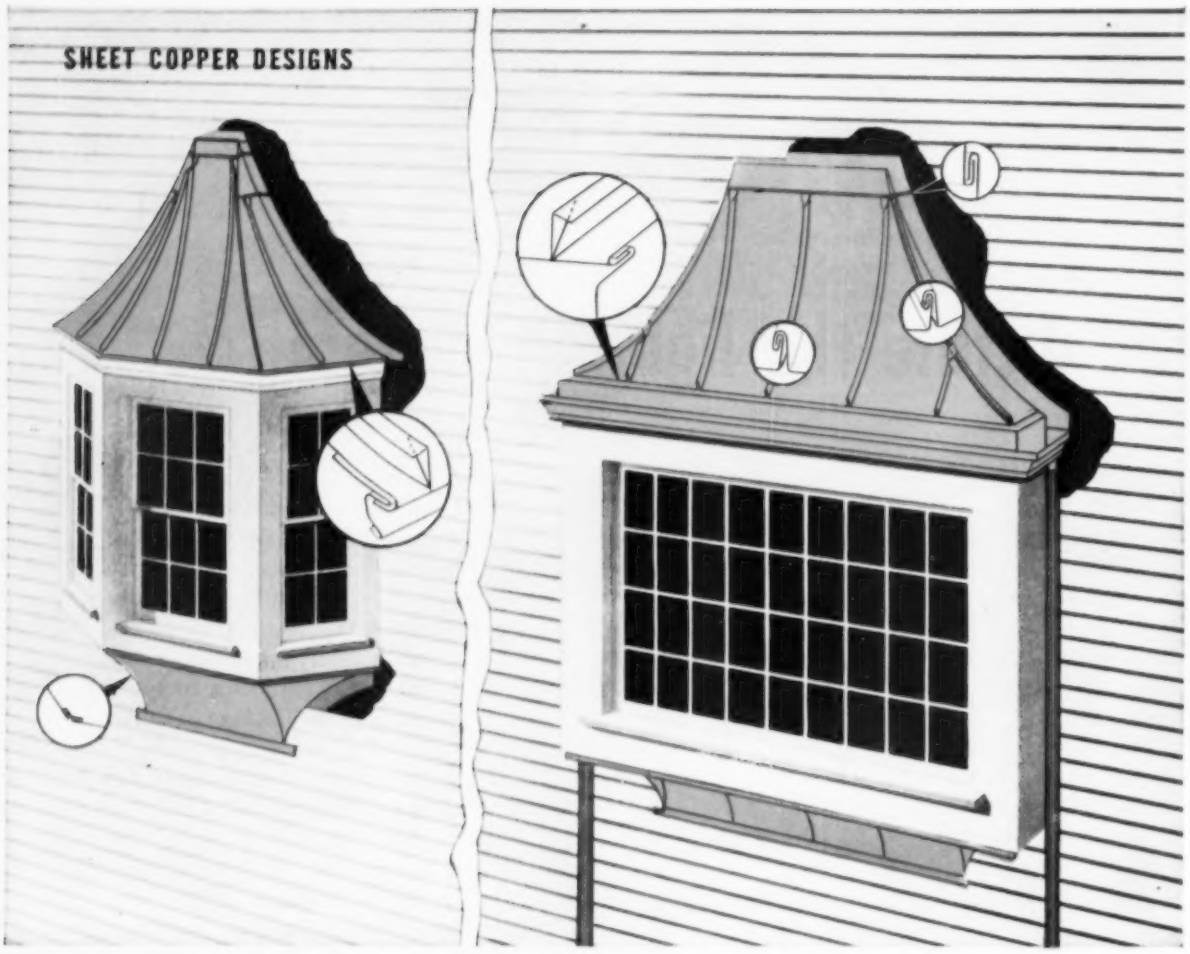

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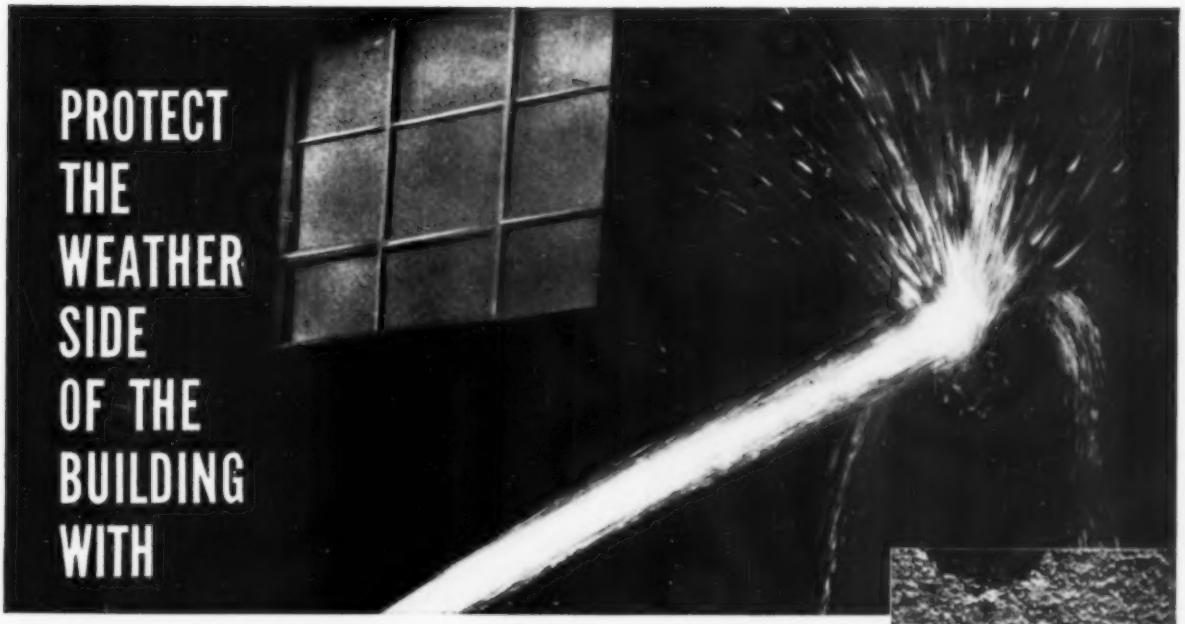

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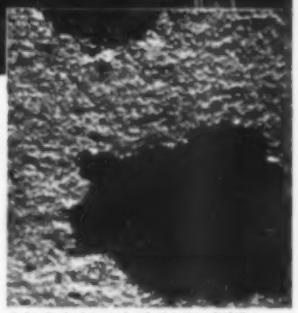
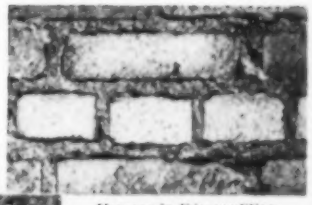
the SILICONE base water-repellent



Actual photograph of common brick. The untreated surface absorbs water globules quickly and completely.

DEHYDRATINE No. 22, a development of the Horn Research Laboratories, is a clear water-repellent for untreated exterior masonry surfaces above grade. It contains polysiloxane resins, generally known as silicones. These synthetic compounds, applied to a clean, dry, continuous masonry surface, will penetrate more deeply than conventional surface treatments and will provide a higher degree of water repellence for a longer period of time.



Masonry in this condition must be consolidated by solid repointing before treatment with Dehydratine No. 22.

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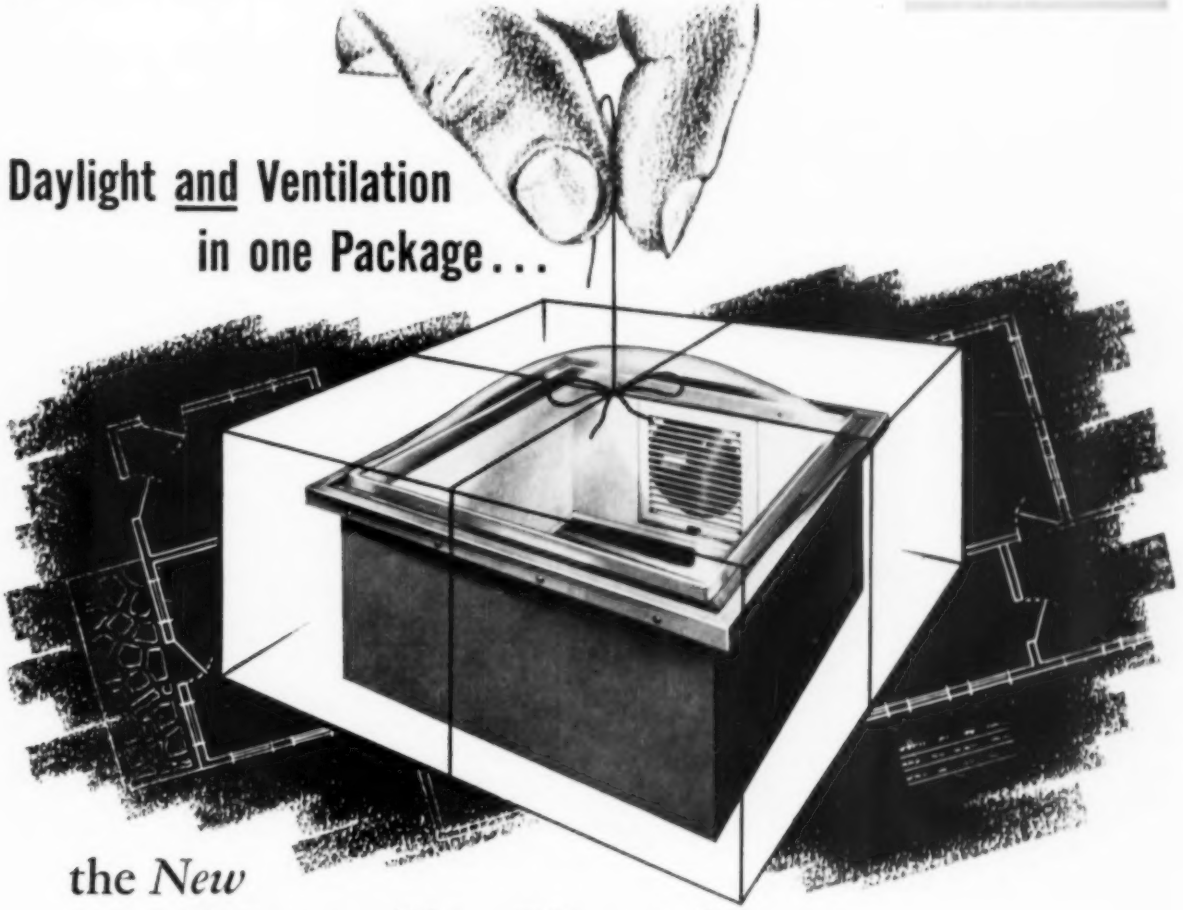

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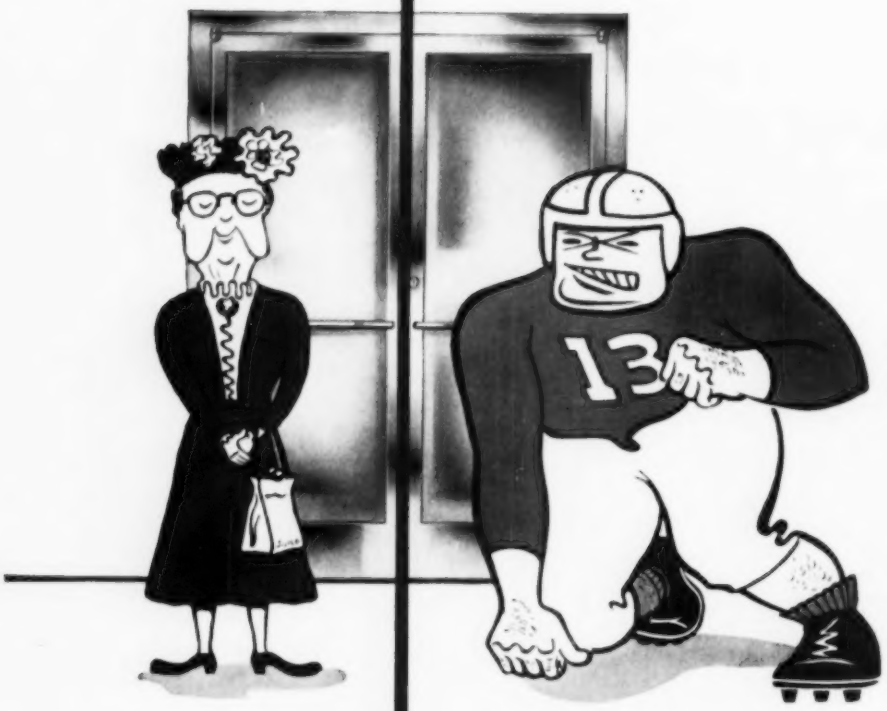

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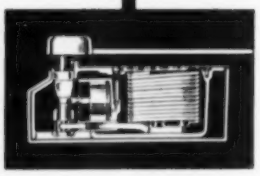

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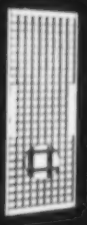

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When you choose hollow-core flush doors, be *sure* of customer satisfaction. Look up to the "backbone"—the core. Only in the "Curtis New Londoner" do you have the locked-in, all-wood *engineered* core that assures dimensional stability—for a lifetime. Every Curtis New Londoner door is one completely joined unit—nothing to "float" or get out of place—with 3-ply faces securely bonded to all parts of the core. Owners will praise you for selecting these doors that don't stick, warp or sag!

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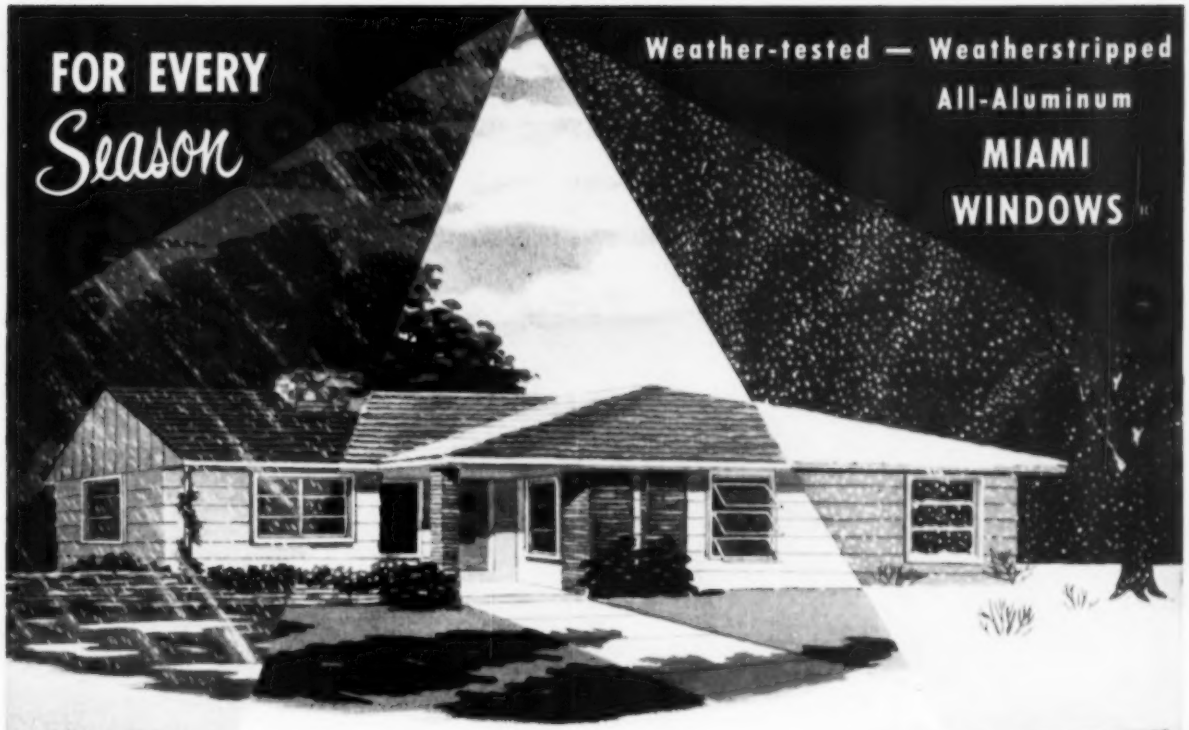

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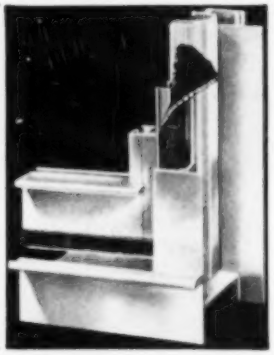

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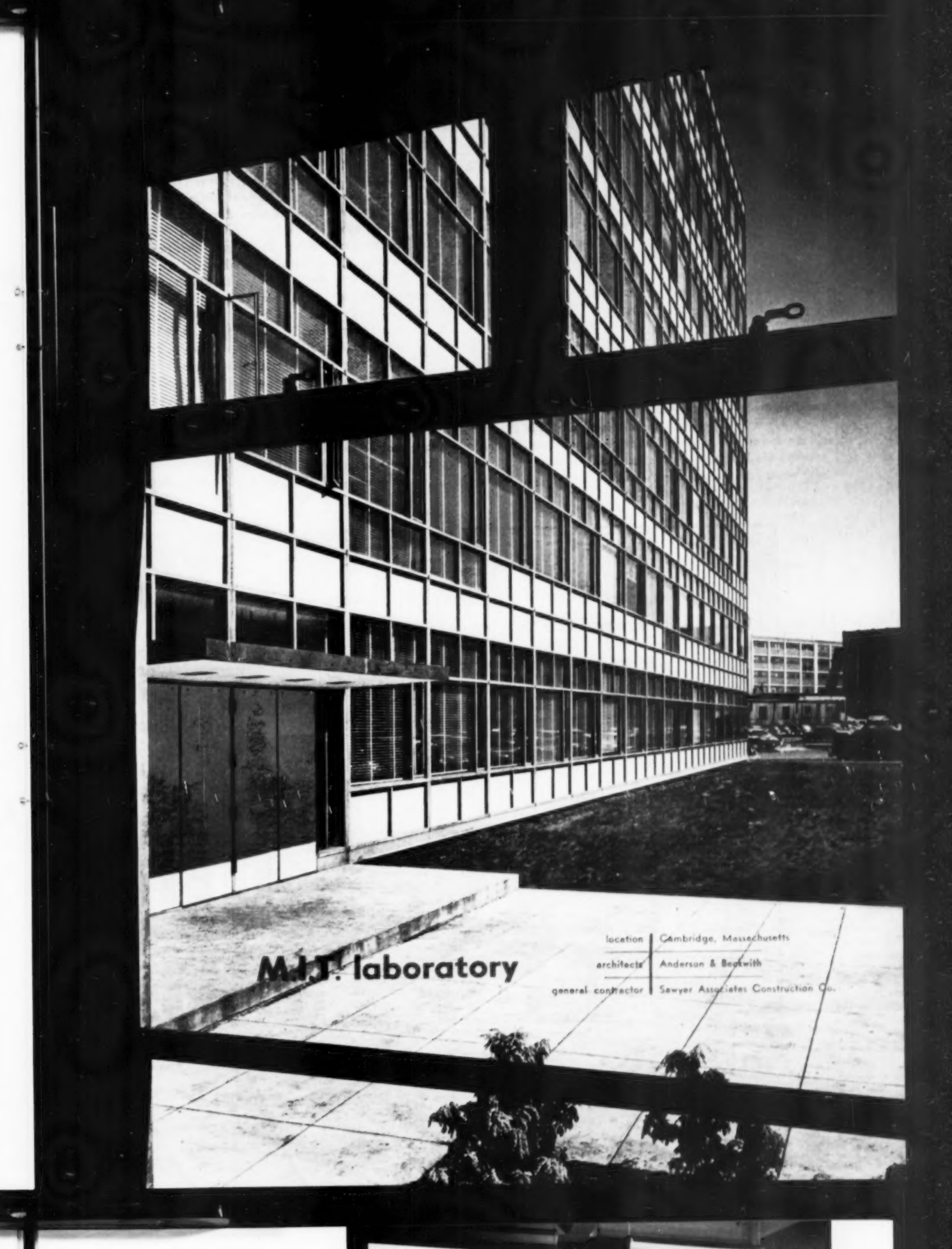


M.I.T. laboratory

location	Cambridge, Massachusetts
architects	Anderson & Beckwith
general contractor	Sawyer Associates Construction Co.

M.I.T. laboratory: structural engineering

The Dorrance Laboratory of Biology and Food Technology was named in memory of an M.I.T. alumnus, John Thompson Dorrance, the former president of the Campbell Soup Company. Made possible through a grant from the company of $1 million (half the total cost), the building consists of eight floors of research and teaching laboratories—the lower three devoted to food technology; the upper five, to biology. The facilities are used for both graduate and undergraduate work.

As a study of typical plans and the section make clear, the elements of plan, structure, and mechanical services are so exceptionally inter-related that it is almost impossible to analyze one without considering all the others. Initial decisions included adoption of a basic north-south orientation, with major labs along the north wall and smaller rooms—research labs, professors' offices, seminar rooms, etc.—on the south. This quickly led to a narrow, rectangular plan with an offset corridor—and a two-bay structural scheme—to provide deep bays to the north for the main labs, the corridor and lesser rooms utilizing the south half of the building depth.

Longitudinally, the columns are placed 18′ on centers, forming a module that may readily be halved, providing 9′ spaces that are adequate for small research labs and offices, or (when used in multiples) large classrooms or teaching laboratories.

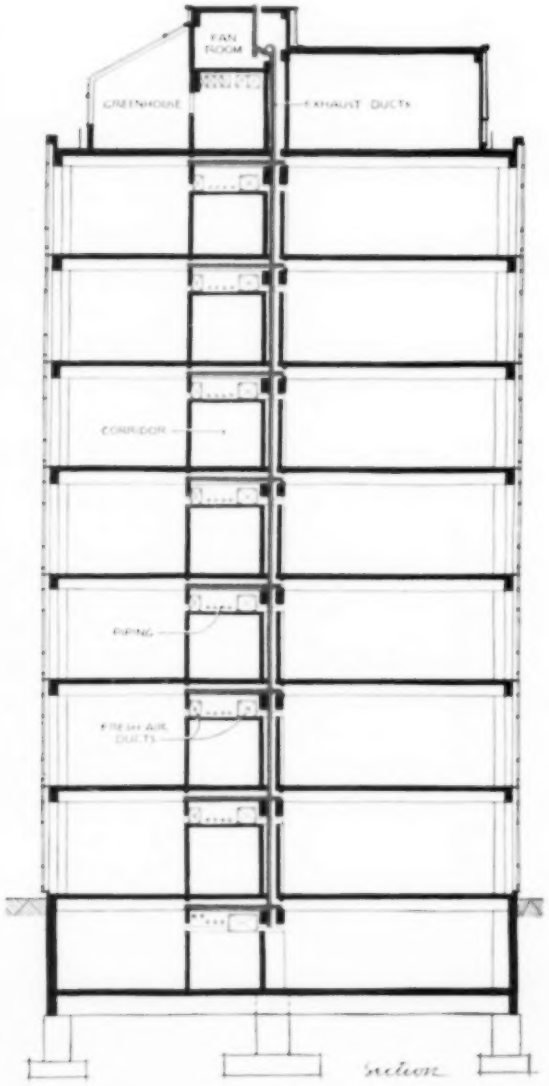
An essential was a flexible and efficient arrangement of ventilation and exhaust ducts and the diverse laboratory plumbing services (hot and cold water, steam, compressed air, gas, and waste lines). And this, again, became an important determinant of the structural design. The longitudinal double girders *(see section)* are dropped below the transverse beams, providing between them continuous, vertical chases from basement to penthouse, for exhaust ducts and other services. This system also permits ventilating ducts, piping, etc., to branch off at the ceiling line.

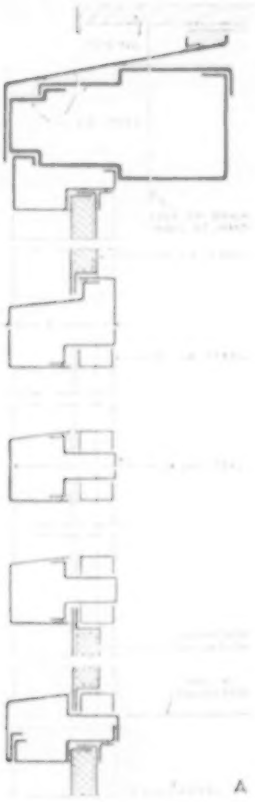
The mains run above the dropped corridor ceilings and are so designed that branches can be taken off at 9′ intervals, on either side. Sleeve branches are provided on a 9′ module to make services available at all window and corridor walls and in the centers of the large north laboratories. Thus the plan, the structure, and the flow of essential services are all intermeshed in a modular grid, providing a high degree of flexibility in use.

Yet another element developed to give

flexibility, depending on particular uses of different areas, is the steel-framed glass/prefabricated-panel curtain wall on both long walls of the building. The space between the floor line and lower horizontal mullion may be either a pane of glass or filled with an insulated-metal panel. Thus, the sill height in different rooms, or in different parts of a single room *(photo right)* may be varied—to accommodate a laboratory work-surface height, or to extend down to the floor.

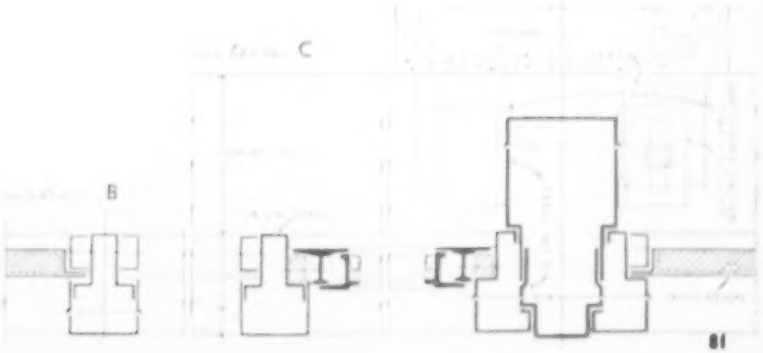
A concrete frame was selected for structural economy. The exterior is enclosed by brick and the steel-glass/insulated-metal-panel complex. Interior partitions are exposed cinder block, painted. The floors are exposed, granolithic concrete except in the first floor lobby (terrazzo) and in toilet rooms (ceramic tile).





Similar units (250) make up the north and south curtain walls, with specially-designed pressed-metal subframes and casement windows; openings, filled with glass or prefab insulated-metal panels.

Photos: Gottscho-Schleisner



M.I.T. laboratory: mechanical engineering

by John Edmund York*

heating system

Steam at 185 psi is supplied to a header in the mechanical equipment room at the east end of the basement *(Figure 1)*. Two pressure-reducing valves with by-pass connections and having capacities of approximately 14,000 and 7,000 lb of steam per hour, respectively, supply steam at 65 psi to an intermediate vertical header. Steam at 65 psi can also be supplied directly to this header in case of failure of the 185 psi supply through a branch main from the 65 psi header serving nearby buildings.

From the 65 psi header a supply main is run overhead in the basement corridor to a riser in the main duct shaft in the tower section to supply steam to coil surface on the 9th and 10th floors.

At each floor, branch connections are provided above the corridor ceiling to supply steam to individual pressure-reducing valves as required for each laboratory.

A pressure-reducing valve with a by-pass connection and having a capacity of approximately 9000 lb of steam per hour is provided in the fan room to supply steam at 5 psi to snow-melting coils at the bottom of the fresh-air intake well, nonfreeze tempering coils in the fresh-air intakes, heating coils in the fresh-air plenum chamber for the branch fresh-air supply ducts *(Figure 2)*, and for heating surface in the air-conditioning and ventilating equipment *(Figure 3)* which serves the animal rooms on the 8th floor.

Approximately 500 lb of steam per hour is supplied from the 65 psi header through a combination pressure-reducing and temperature-regulating valve to a domestic hot-water heater located in the mechanical equipment room in the basement.

Two pressure-reducing valves with by-pass connections and having capacities of 3600 and 600 lb of steam per hour, respectively, supply steam from the 65 psi header at 25 psi to two thermostatically-controlled valves connected in parallel in the steam supply to a high-pressure converter in the same room.

Condensate from the high-pressure converter is flashed to steam at 2 psi for reuse in a low-pressure converter located immediately below the high-pressure converter.

The converters serve the hot-water heating system for the building and the greenhouse on the roof. The low-pressure converter is designed to reheat the water from 201 to 202.3 F and the high-pressure converter to further raise the temperature to 227 F.

Two hot-water circulating pumps, each having a capacity of 325 gpm and equipped with a 5 hp, 1750 rpm motor, circulate the hot water through the system.

Supply and return hot-water mains are run overhead through the corridors *(Figures 4 and 8)*, with supply and return risers concealed in the pipe space between the double walls and branch connections exposed along the face of the beams to finned-type radiators with solid front covers below the windows *(Figure 5)*.

ventilation system

Two similar fan rooms, located one above the other in the tower section, house tempering coils, filters, and fans for the fresh-air supply system *(Figure 6)*.

Air is supplied to the fan rooms by means of a vertical shaft from the roof. Heating coils and a pan with a drain are provided at the bottom of the shaft for melting snow and removal of the water.

Operating louvers and nonfreeze-type steam coils are provided at the opening from the shaft to each fan room. The steam coils are supplied with steam at 5 psi and heat the entering air from —10 F or above to 35 F.

Combined electrostatic and waterproof dry-type filters are provided to clean the entering air.

The electric filter is provided with a built-in system of spray nozzles supplied with hot water which can be turned on from outside the filter chamber to wash down particles collected on the terminals of the electrostatic filter and the dry filters.

Access to the room in which the electrostatic filters are located can only be obtained through a special door equipped with a time-delay system on the lock, which makes it impossible to open the door until the power is off and sufficient time has

* *Registered Professional Engineer, Massachusetts and New York*

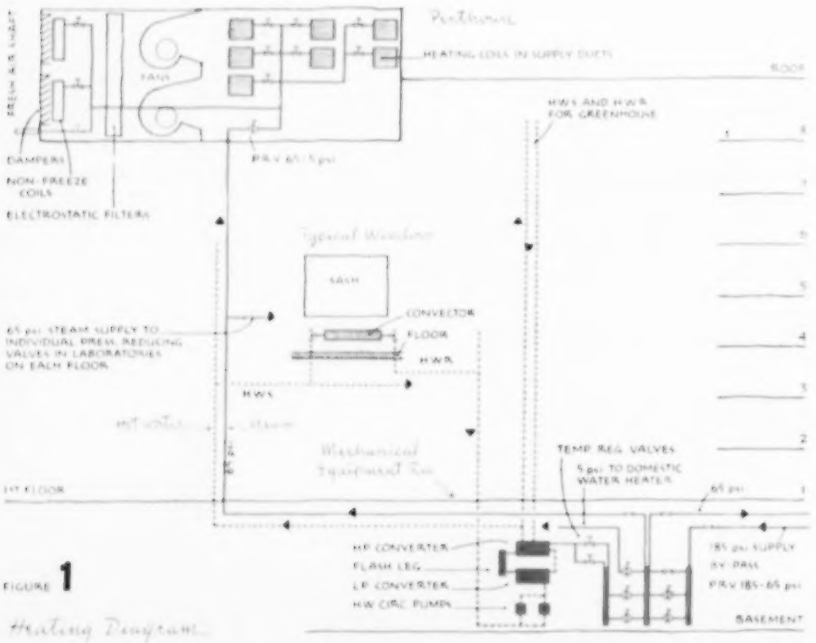


FIGURE 1

elapsed to permit the static charge on the electrodes to dissipate.

Two top horizontal double-width, double-inlet, belt-driven fans with backward-curved blades, each having a capacity of 35,000 cfm at 1½ in. S.P., deliver the air to a plenum chamber. Automatic varipitch drives provide means for changing the capacities of the fans for summer and winter requirements.

Reheating coils of varying sizes, supplied with steam at 5 psi, raise the temperature of the air from 30 F to 125 F and the air is then discharged through separate vertical ducts in the duct shaft to branch ducts above the corridor ceiling on each floor. These horizontal branch ducts are located on each side of the corridor to permit short branch connections to supply air to the adjacent rooms *(transverse section page 81)*.

Double-deflection grills are provided for control of the volume and distribution of the air at each supply inlet.

The supply ducts are insulated with fiberglass block insulation approximately 1 in. thick for ducts having a perimeter of 6 ft or over and 2 in. thick for ducts having a perimeter of less than 6 ft *(Figure 8)*.

Exhaust ducts from fume and canopy hoods in the laboratories and exhaust grills in rooms where there are no hoods connect into lead-coated vertical copper ducts concealed in the double wall at one side of the corridor. These ducts are in turn connected to exhaust fans in a penthouse *(Figure 7)*. The fans and their driving motors are mounted on antivibration bases and have neoprene connections to the duct work to prevent transmission of noise and vibration to the duct work.

Fans which handle ether fumes are of sparkproof construction and fans used for fumes which are definitely corrosive have the inside surfaces and the fan wheels rubber-coated. Each fan discharges independently to the outdoors and pneumatically-operated dampers which close when the fan is not operating are provided in each fan discharge. A separate exhaust fan is provided for the toilet room ventilation.

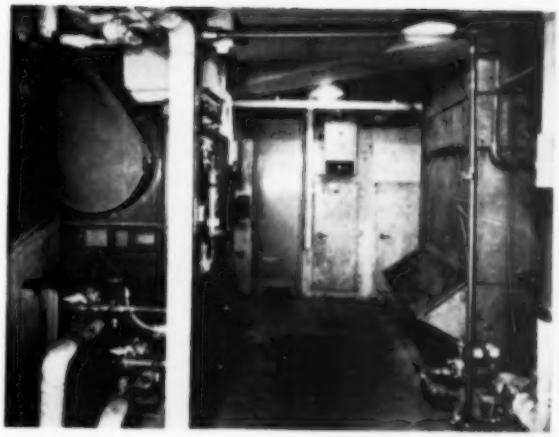


Figure 2—fresh-air plenum chamber (above top) contains discharge outlets for two supply fans and heating coils at the inlets to fresh-air supply ducts.

Figure 3—air-conditioning and ventilating equipment for animal rooms on eighth floor (above).

Figure 4—overhead supply ducts and mains in basement corridor (right).

Figure 5—finned-type hot-water radiators under windows in typical office. Similar radiators are provided under laboratory windows (below).

Canopy-type hoods are provided over apparatus which release heated vapors.

air conditioning

The animal rooms, which are located on the 8th floor, are air conditioned to maintain constant temperatures and humidities. Nearby rooms have special ventilation.

A vertical air-conditioning unit with cooling surface to cool approximately 3000 cfm of outside air, during the hot weather, from 92 FDB and 78 FWB to 52.8 FDB and 52.5 FWB supplies the air to the animal rooms through individual ducts to each room with ceiling-type diffuser inlets. Reheating coils designed to reheat the air from the conditioning unit from 30 F to 120 F during the heating season with steam at 5 psi pressure are provided in each branch duct from the unit.

A vertical heating and ventilating unit located adjacent to the air-conditioning unit and equipped with coil surface to heat approximately 1500 cfm of air from 30 F to 120 F supplies other portions of the 8th floor laboratory through a single supply duct with ceiling-type diffuser inlets in each room.

All air from the animal rooms and other rooms is exhausted to the outdoors by fans located in the penthouse above. Outside air is supplied to the air-conditioning unit and the heating and ventilating unit through a duct from the bottom of the fresh-air shaft supplying the main fans. Nonfreeze-type heating coils are provided in the fresh-air intake to heat the entering air during the cold weather from —10 F to 35 F and an electrostatic filter cleans the entering air.

A 25-ton Freon compressor with a 30-hp motor and automatic capacity reduction, mounted on a vibration-eliminator base and operating at 35 F suction temperature and 105 F condensing temperature, provides the necessary refrigeration during the summer months for the air-conditioning unit.

In order to conserve water, an evaporative condenser of 26.4-ton capacity at 105 F condensing temperature and 78 F entering wet bulb temperature, is located adjacent to the compressor.

Fresh-air intake and discharge connections to supply 5900 cfm of air are provided for the evaporative condenser and a 2-hp fan mounted on a vibration eliminator base is used for circulating this air.

On the 5th floor, air conditioning is provided for the electron microscope to prevent flashover from the high-tension connections, due to excessive humidity. A horizontal overhead air-conditioning unit with direct expansion Freon cooling coils, having a cooling capacity of 1250 cfm of air from 80 F to 66 FDB with 45 F refrigerant suction temperature is located in an adjacent room and connected through suitable duct work to supply and return grills in the rooms housing the electron microscope and other equipment. The air-conditioning unit is suspended from the ceiling above with vibration isolators.

A 6-ton water-cooled Freon condensing unit, with a 3-hp motor and using 5-gpm of water at 75 F supplies the necessary refrigeration for the system.

The fan for the air-conditioning unit is manually controlled and the refrigerating unit is thermostatically controlled.

Similar equipment is provided for laboratories on the 7th floor used for optical experiments, ultraviolet microscopy, ultraviolet microspectrophotometry, and for the infrared spectroscopy room to prevent excess humidity which may seriously affect the salt and potassium bromide windows of the instrument.

Constant temperature rooms on several floors have their own air-conditioning equipment to maintain the required temperatures and humidities in these rooms.

temperature and humidity control

A combined, pneumatic, electric-control system is provided to function as follows:

(1) The steam supply to the hot-water converters, which provide the hot water for radiators throughout the building, is controlled by two motorized valves between the pressure-reducing valves and the converters. These motorized valves are actuated by an immersion thermostat in the discharge from the converters, which is reset by an outdoor thermostat to maintain the proper water temperature to heat the building at an even temperature as the outside temperature, wind, and sun vary.

An auxiliary switch stops the circulating pumps as the pressure-reducing valve nears its minimum position to prevent overheating. Thermostats and automatic valves are provided to throttle the water supply to the radiators and to act as high limits.

(2) The steam to the heating coils for each of the main-building air zones is controlled by a modulating steam valve operated by a duct controller in the duct for the corresponding zone. Each duct controller is reset by an outdoor controller to maintain even temperatures in the building as outdoor temperature, wind, and sun vary. A reset relay reduces the total variation of the control condition as the load on the steam coil varies from a minimum to a maximum, to 10 percent of the set dif-

ferential.

The steam to the preheat coils in the main buildings and penthouse system is controlled by modulating steam valves under control of a thermostat in each intake section to maintain a minimum of 35 F for the air entering the filters.

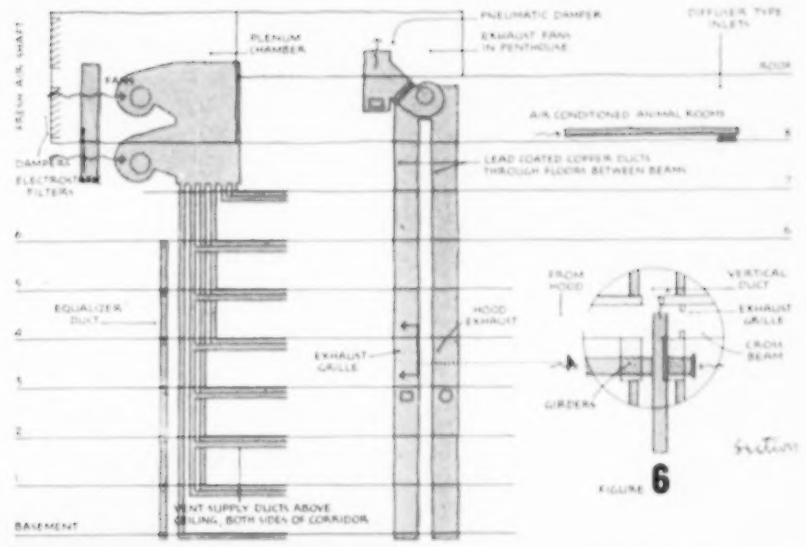
(3) Steam to the heating and ventilating unit supplying the penthouse zone is controlled by a modulating steam valve under control of a room thermostat.

(4) Pressure switches stop the supply fans and units, if steam is not available on the heating coils.

(5) A three-way valve in the return line to the circulating pumps for the greenhouse radiation is set by a controller in the water supply to the radiation. A room thermostat resets the control point of this controller to maintain even temperatures in the greenhouse, with varying outdoor temperature, wind, and sun.

(6) Each of the animal rooms has a modulating thermostat arranged to control a steam valve on the reheat coil to each room or to open a solenoid valve on the refrigerant liquid line to the cooling coil, as required to maintain the desired room temperature. An animal-membrane type humidostat is also provided in each room to open the solenoid valve in case of rises in the relative humidity.

(7) An electronic night-thermostat and electronic cycler-panel control night temperatures in the building by starting and stopping the hot-water pump. The cycler panel has an adjustable minimum cycle period. A seven-day program clock bypasses the cycler panel during the day. A pneumatic, motorized valve in the hot-water supply line opens and closes, as the pump starts and stops.



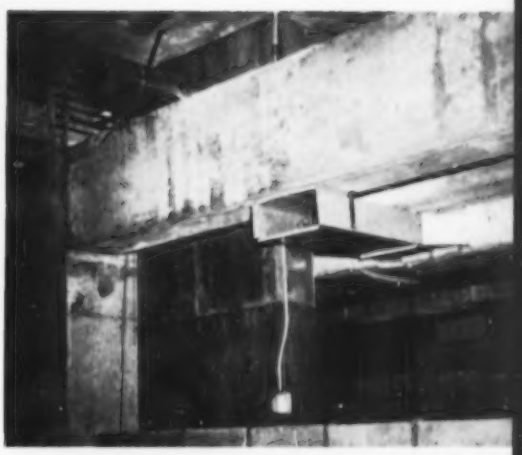
Ventilation Diagram

Figure 8—covered main supply duct above corridor ceiling with branch connection for exhaust grill in laboratory (right above).

Figure 9—fume and canopy hoods with exhaust connections in laboratory (right below).

Figure 10—construction photo (below) documents integration of structural and mechanical engineering.

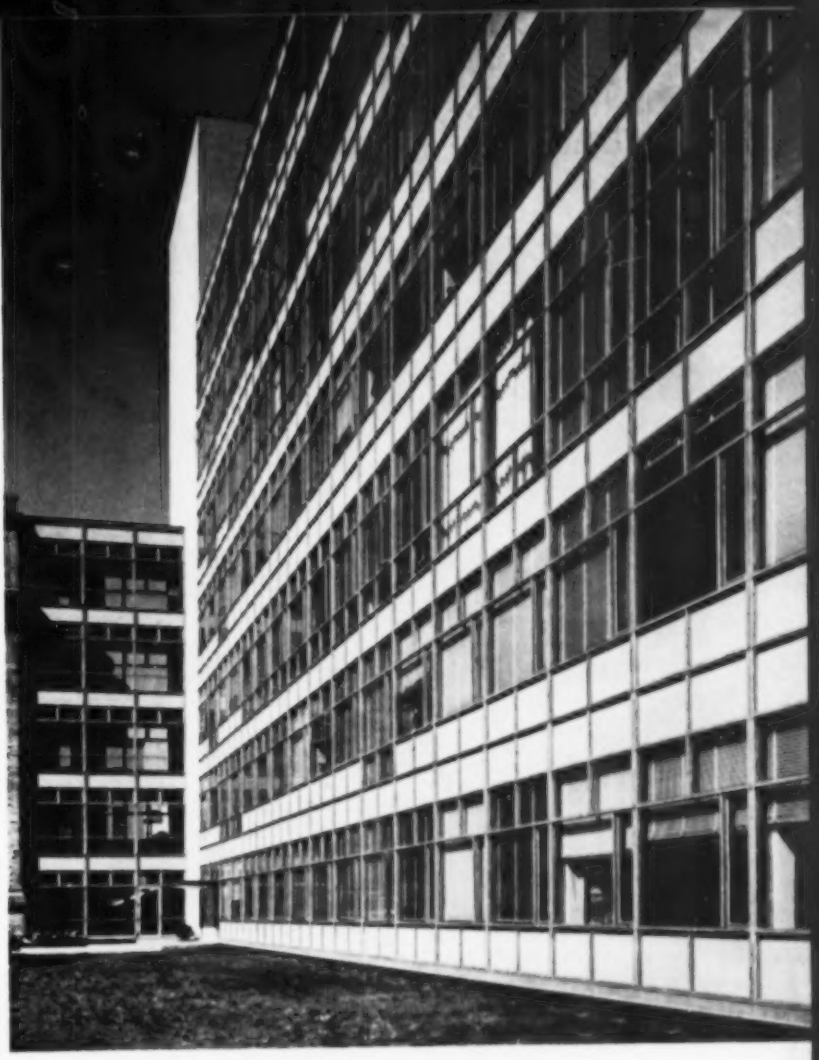
Figure 7—exhaust fans in penthouse (left).



M.I.T. laboratory

The new lab is connected with the older M.I.T. group at a point near the existing physics and chemistry departments. The stair hall (right) occurs in a five-story, glazed element that joins the new and old buildings.

the building

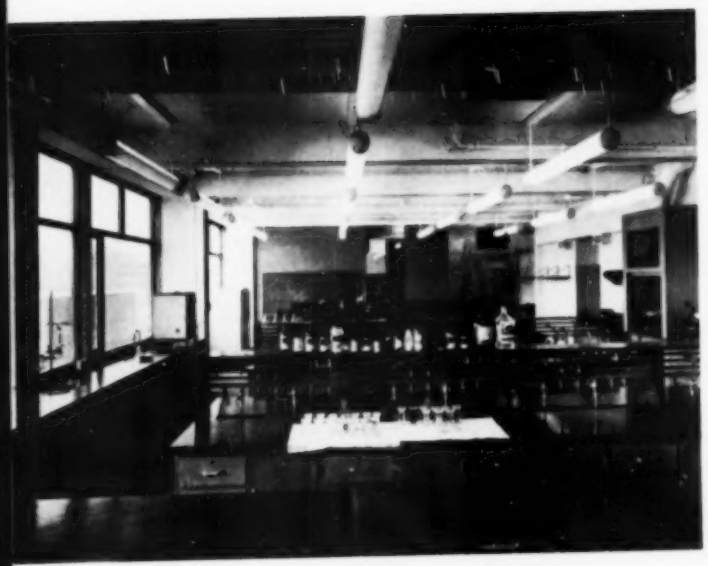


Treatment of the north side of the building (above) *is almost identical to that of the south* (right). *Window frames and metal panels are painted gray, both inside and out—the gray tone being repeated for the metal door-bucks and interior-wall base. The main lab entrance* (below) *occurs near the west end of the south wall of the building.*

M.I.T. laboratory: the building

The east and west walls of the stair-hall connecting element (top) were glazed to maintain a degree of visual continuity between two parts of the campus. The suspended, tubular-light fixtures used in most labs (right) were developed by the M.I.T. Lighting Committee to provide a light source whose brightness would be substantially the same as the ceiling brightness. A spiral staircase (below) extends one end of the first-floor processing lab down to the basement level, for experiments requiring extra height.

In certain rooms, such as a physics measurements lab (left) and a large classroom (below), luminous ceilings provide high-level illumination.



The biochemistry teaching laboratory on the north side of the fourth floor (left) is 54' long, occupying three full bays. Through the passage at the far end is the physiology teaching lab. The architects report that the amount of effort that went into selection and organization of lab equipment was at least equal to that expended on all other architectural work.

Among the specialized rooms in the basement is the biology and food-technology machine shop (above). In the typical corridor (right) lockers occur in the wall adjoining the large laboratories on the north. The detail of the corridor wall of the biochemistry teaching lab (below) clearly shows the racks of service piping along transverse beams, fume hoods, ventilating grills, and exhaust ducts.

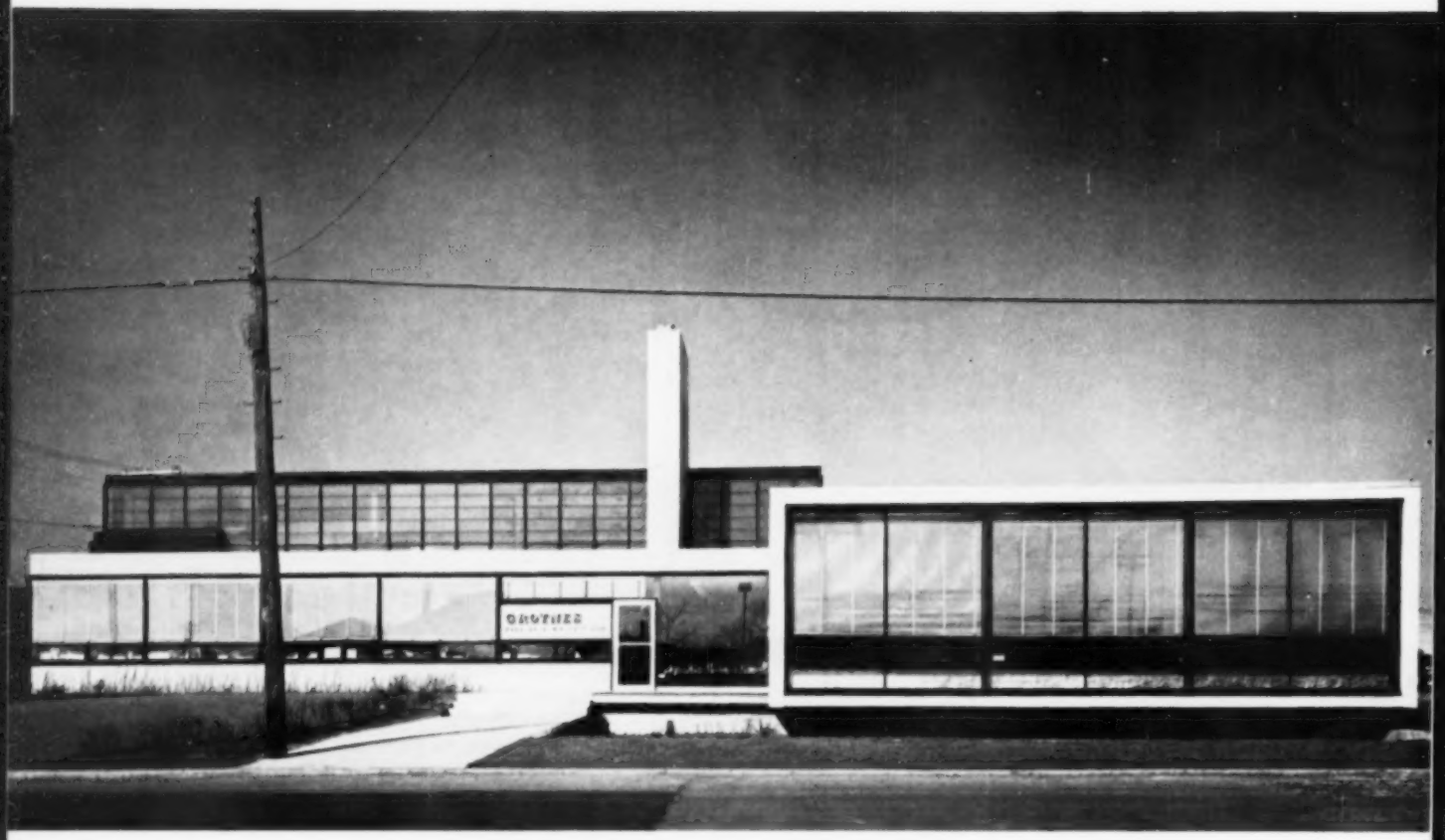
Special-purpose rooms on the south wall of the building include (across page, top to bottom) a conference room in the biology department (fifth floor); a biology staff seminar room (seventh floor); and a professor's office. In the latter, a 7' storage partition (one side bookshelves, one side corkboard) separates the entrance area and secretarial space from the professor's work space. All furnishings for offices and seminar rooms were selected or designed by the architects.

construction

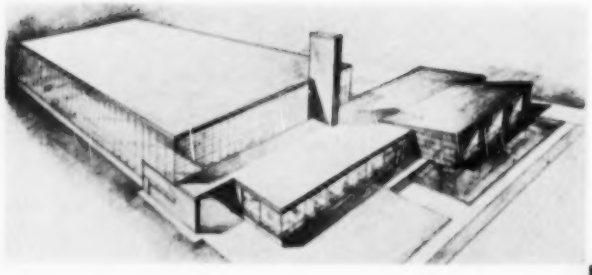
Foundation, floor, roof, framing: caissons—Raymond Concrete Pile Co.; reinforced concrete frame, floors and roof—Concrete Steel Co. **Wall surfacing:** exterior: brick—Hanley Co., Inc.; interior: cinder block; rest rooms, toilets: glazed ceramic tile—American-Olean Tile Co. **Floor surfacing:** granolithic concrete. **Ceiling surfacing:** exposed painted concrete in laboratories; corridors and lobby area; acoustical tile—The Celotex Corporation; classrooms; acrylic plastic. **Roof surfacing:** built-up 5-ply tar and gravel—Koppers Company, Inc. **Waterproofing and damp-proofing:** iron oxide and cement-plaster coat—A. C. Horn Company, Inc. **Insulation:** thermal: perlite concrete. **Roof drainage:** drains—Barrett Division, Allied Chemical & Dye Corporation. **Partitions:** interior: cinder block; toilet: metal—Henry Weis Mfg. Co., Inc. **Windows:** sash—Hope's Windows, Inc.; plate and heavy sheet glass—Pittsburgh Plate Glass Company; greenhouse—Lord & Burnham Division, Burnham Corp. **Doors:** flush plywood interior—Roddis Plywood Corporation; overhead—Cornell Iron Works, Inc.; hollow metal entrance—Williamsburg Steel Products Co. **Hardware:** locksets and door closers—Yale & Towne Mfg. Co.; hinges—The Stanley Works; small hardware—Glynn-Johnson Corporation. **Paint and stain:** exterior—E. I. du Pont de Nemours & Co. (Inc.); interior—Carpenter Morton Co., Martin Senour Co., Boeing Bros., Inc.

equipment

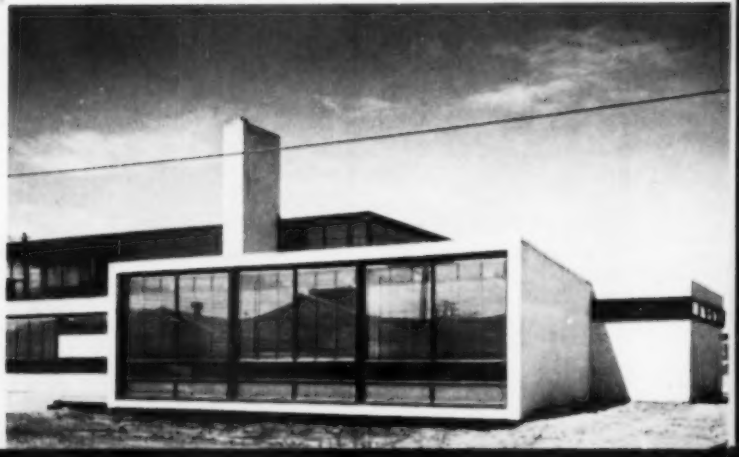
Laboratories: furniture—A. S. Stanley Co., John E. Sjostrom Company. **Elevators:** cabs—Otis Elevator Company. **Lighting fixtures:** laboratories, some classrooms, offices: cylindrical plastic, fluorescents—Day-Brite Lighting, Inc.; classroom, seminar and research areas: luminous acrylic-plastic ceiling—The L. W. Wake-field Brass Co.; greenhouse and 8th floor: slimline fixtures—Gruber Brothers, Inc.; corridors: single-strip fluorescents with louvers—Metallic Arts of New England, Inc. **Electrical distribution:** service entrance switch, panelboards, multibreaker—Westinghouse Electric Corporation; duct system—Walker Brothers; cable—General Cable Corp., Simplex Wire & Cable Co.; galvanized conduit; R H and T W wiring devices. **Plumbing and sanitation:** water closets and lavatories—Kohler Co.; toilet seats—C. F. Church Mfg. Co.; water heater—Patterson-Kelly Co., Inc.; flush valves—Sloan Valve Company; incinerator—Brule Incinerator Corp.; pipe—The Ductron Company, Inc.; copper tube—The American Brass Company; sprinklers—Rockwood Sprinkler Co.; emergency shower—Speakman Co.; pneumatic pump—Ingersoll-Rand Co. **Heating and air conditioning:** forced hot-water and tempered-air system; steam from M. I. T. central plant; fin-type convectors, invisible covers—The Vulcan Radiator Co.; air handling—American Blower Corporation; air-conditioning unit—Carrier Corporation, Freon 12 refrigerant, compressor and cooling coils—Carrier Corporation; grills—Tuttle & Bailey, Inc.; blowers—The New York Blower Co.; electrostatic filters—Trion, Inc.; controls—The Powers Regulator Company.

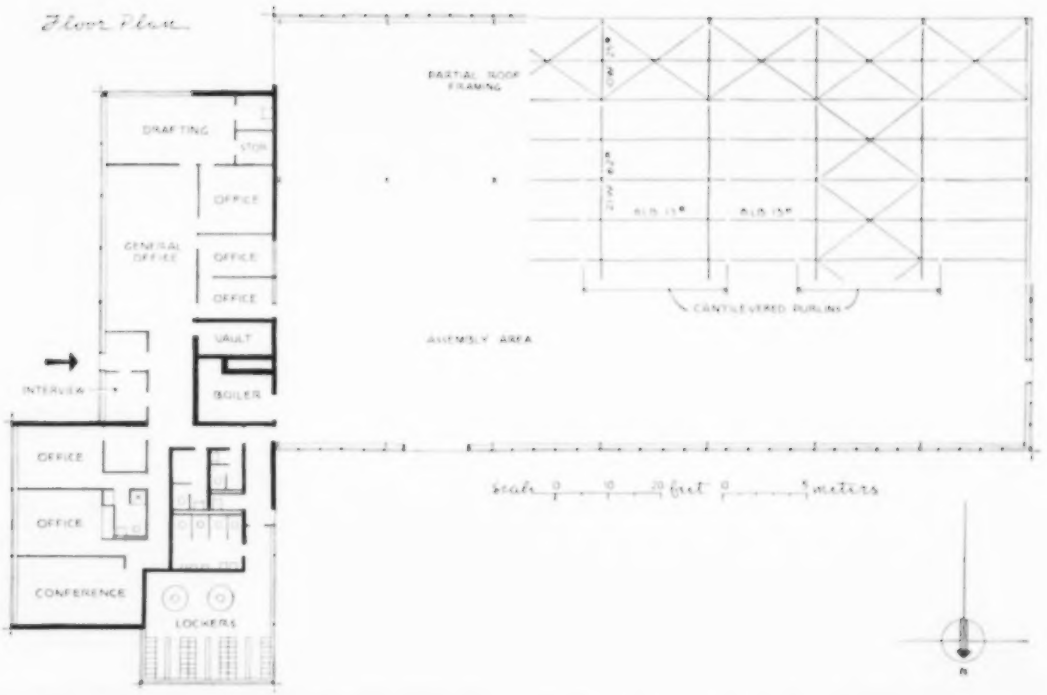


machine works



location	Chicago, Illinois
architects	Barancik, Conte & Associates
structural engineers	Frank J. Kornacker & Associates
general contractor	Continental Construction Co.





This drum-making machinery plant . . . its assembly area an envelope of blue, glare-absorbing glass . . . uniquely conserves steel. Its architects believe good factory design recruits and retains employes . . . and a factory need not be "Gibraltar-like."

This subsidiary of a Dutch concern, the Midwest's first plant manufacturing machinery to expand metal drums, required a 17,000-sq-ft building. Located on a level site in a suburban area, it is the initial project of a multistage development program. Within are machine shops, assembly areas, and the general and executive offices.

Limited by a steel shortage and a restricted budget, the architects planned an expandable, well-lighted, low-maintenance structure. By using a framing technique designed to conserve steel, members are cantilevered one sixth of their span. The balance of positive and negative bending moments which then resulted reduced steel tonnage 15 percent. For maximum light and the most complete external flexibility, the assembly area was designed as a glass shell resting upon a three-foot brick base.

machine works

Throughout the factory, materials are used in efficient and ingenious ways. Window sills are wide-flange beams laid on their sides, filled with concrete, and finished with red terrazzo. The assembly-area structural system cantilevers steel beams and purlins. For the industrial sash, steel muntins are welded together and fitted with blue, glare-absorbing glass.

The executive wing projects over a sunken planting area. For insulation and privacy, its window wall up to sill height is of thin sheets of glass with a layer of tinfoil between. Steam unit heaters are spotted in the machinery area. Offices have radiant floor slabs, acoustic-tile soundproofing, and fluorescent lighting. Black terrazzo and light tan asphalt-tile floor finishes provide unique contrasts against limestone and buff-colored face brick. All of the exposed steel is painted black—setting off the glass skin. *Photos: Hedrich-Blessing*

office organization

by Clinton H. Cowgill*

In Chicago, there is an architect with neither partners nor employes, who undertakes quite large projects. I have been told that he accepts but one project at a time, and that he takes a vacation after the completion of each project. Much lost motion is saved by this procedure, but he could hardly satisfy a client who was in a hurry.

The A.I.A. Commission to Survey Architectural Education and Registration found that in 1950 the average architect's organization consisted of 7½ individuals. It is necessary, of course, that some firms be large enough to handle very large projects —and large firms, in order to have a continuous flow of commissions, so as to maintain their organizations, must be able to keep several large jobs on the boards. Since the average architectural firm has grown to the size it has, and since many firms are truly large organizations, it is necessary to pay careful attention to office organization. It is the purpose of this paper to discuss briefly the principal divisions of responsibility and work in an architect's office, and two primary methods of office organization.

It will be seen (Chart No. 1) that there are three functional phases of work, coming under the general heading of Operation—Production, Development, and Administration. Since architects are receptive to visual explanations, this chart has been prepared to illustrate graphically the definition of terms used.

production

By production, we mean everything that goes into design, preparation of working drawings, and preparation of specifications. Most architects are probably especially interested in what they call *design*, and few would dispute that the ability to design is the most essential of the qualifications of an architect. Design generally is taken to mean the whole process by which the arrangement, shape, construction, and equipment of buildings is determined, and decisions regarding design in this broad sense are frequently made during the production of working drawings and specifications. However, it is less confusing—certainly for this discussion—to include in the definition of the design process only investigation and research leading to programming, sketches, preliminary estimates, and preliminary engineering decisions.

Hence, we have these three principal office functions—design, working drawings, specifications—included in the production process, and reflected that way, as we shall see, in the usual office organization.

development

Of the three divisions of operation, the first to be encountered chronologically is development. An architect must get a commission before he can proceed with it. Specific job development is therefore of great importance, but what is called on the chart *general development* may be even more so. This includes civic activities, publicity, and public relations; the more effective this type of general development becomes, the less effort need be given to individual job development activities. If the job comes to the architect, the architect does not have to go after the job.

administration

For lack of a better term, the word *administration* is used to designate supervision and maintenance, and all service to clients other than production. While the production of contract documents is a major service to the architect's clients, getting the building built is equally important. Despite the fact that the general public seems to think that architects merely "draw blueprints," drawings and specifications are primarily tools, by means of which the architect achieves the final result for which he has been commissioned.

Supervision, either with or without superintendence, together with the taking of bids and the awarding of contracts, are the usual major activities in the administrative function. Some architects, however, have broadened their service to include consultation (without the use of drawings or specifications) and some other professional services, such as continuing advice relative to building maintenance.

management

Over all the operating functions in an architect's office, and taking care of the various nonoperation activities, is management. This is mentioned last, despite its prominent position on the chart, because it is probably the division of architectural practice that is least appealing to many architects who are most competent professionally. Some may consider management a necessary evil, but it *is* necessary. The more it is neglected, the more time it probably will eventually require. Management of an architectural organization of average size, if done efficiently, should not be a burden. The smaller the organization, the less management required, of course, and vice versa.

The principal nonoperation activities which require the direct attention of management may be divided into legal and financial matters. The preparation and revision of partnership agreements, defense against threats of unfair liability suits, and moves to protect the legal rights of the firm are among activities of a legal nature, separate from client service. The collection of fees, provision for reserves, and the wise investment of surplus are typical financial matters requiring management's attention.

organization

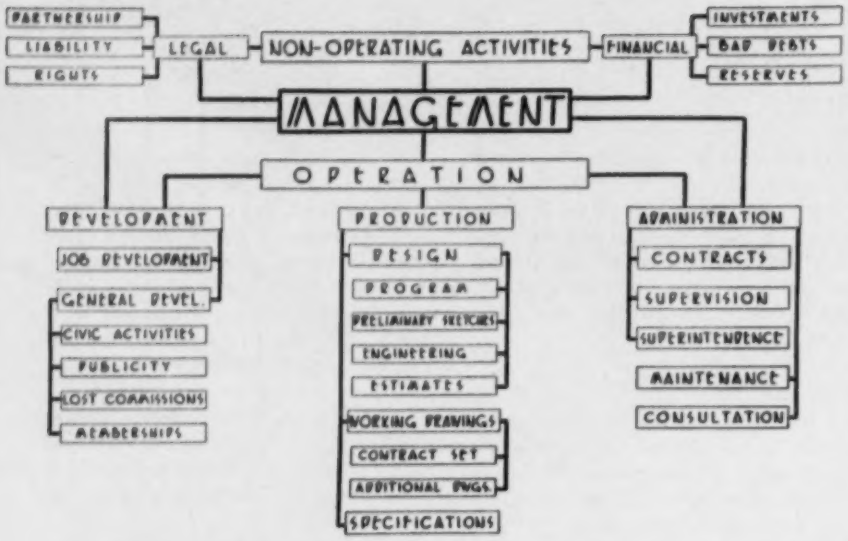
Large architectural organizations are frequently tempted to employ factory methods in an effort to reduce costs. Some specialization is necessary, of course, because the skill, knowledge, and judgment required in the various branches of practice are seldom found in great quantities in a single individual. The organizations which do the best work, though, are those in which a large proportion of the workers are broadly educated and trained. At least 30 percent of all employes should be in training for architectural practice, and, incidentally, a third of these could well be recent graduates.

For the majority of architectural firms, organization is no great problem, often developing naturally in accordance with the abilities of the various members of a firm. When an architect practicing alone as a single principal finds that he has acquired a useful worker, either as a partner or as an employe, appropriate duties may be taken by this added person—and this procedure may be repeated as the organization grows.

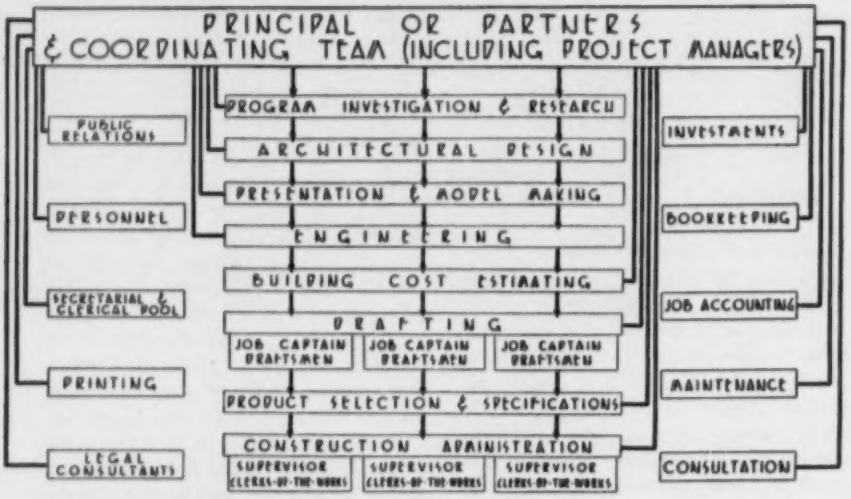
Up to a certain point, each principal or partner may have the comfortable feeling that comes from being able to follow each project closely enough to take direct responsibility for all of the work of the firm. While each principal must continue to take full *legal* responsibility, as the organization becomes larger, more and more of this responsibility must be assumed indirectly, through faith in another partner, employe,

* *Head, Dept. of Architecture, Virginia Polytechnic Institute*

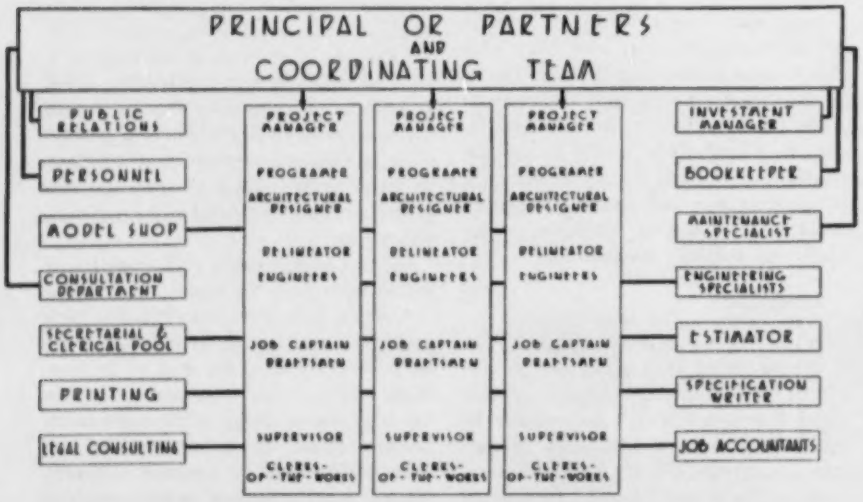
1. office function



2. horizontal organization



3. vertical organization



or consultant. Such faith, however, justified through long association, must be tested occasionally by checking the work of each person to whom responsibility is delegated.

When the size of the permanent organization, including partners and employes, is such that the combined salaries are, let us say, $100,000 a year or more, it becomes necessary to keep a minimum amount of work on the boards continuously. Then—and particularly if projects of great magnitude are included in the work of the office—a decision may have to be made between two basic types of organization. One might be called horizontal, and the other vertical. Modifications of both of these patterns might be appropriate for smaller organizations.

The charts and thoughts regarding these two organizational methods are based upon material prepared by Walter T. Rolfe, Houston, Texas, architect, a member of the Survey Commission referred to earlier. (See also OFFICE PRACTICE article in November 1948 P/A.)

horizontal organization

In the horizontal organization (Chart No. 2) the architectural office becomes departmentalized in accordance with certain functions and specialties, rather than by projects. These specialties usually include the production activities: program investigation and research, architectural design, presentation and model making, engineering, estimating, drafting, product selection, and specification; administrative activities such as supervision, superintendence, job accounts, bookkeeping, contracts, maintenance, consultation services; development activities including public relations; and management functions such as legal problems and investments. A secretarial and clerical pool and a printing department might be included, in some of the very large offices.

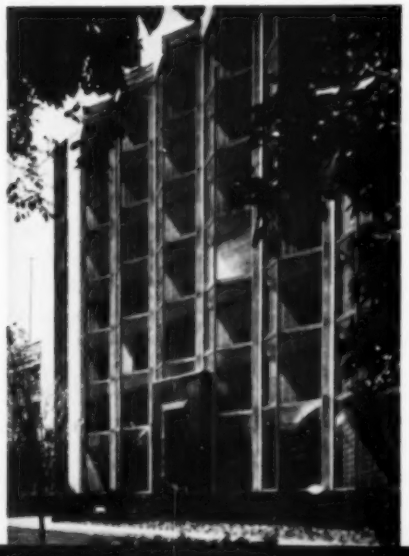
In this type of organization only the drafting and administrative departments would be subdivided vertically—that is, by projects—each job on the boards being in charge of a job-captain, whose duty it would be to co-ordinate the production of working drawings under the supervision of the chief draftsman; and each large job under construction being in charge of a supervisor or clerk-of-the-works. Project managers, one in charge of each project, would cut across departments, engaging the services of any of the departments needed. Each project might also come under the special care of one of the partners. At frequent intervals, conferences

(Continued on page 190)

design data for CURTAIN WALLS ALUMINUM AND STAINLESS STEEL

Although the use of metals for elements of exterior walls has increased sharply during the last 25 years, the most significant technological advances in metal curtain-wall construction have occurred since World War II. Metal panels are lightweight, can be quickly erected, are permanent and easily maintained, and when combined with insulation they provide a curtain wall that, in terms of reducing heat loss and preventing vapor transmission, has not been surpassed. As aluminum is now generally available for architectural use, this metal is being specified for an increasing number of multistory buildings. In the first half of the discussion appearing on the following pages, the Reynolds Metals Company and the Editors of P/A present design data for "Aluminum Curtain-Wall Construction" and detail drawings of the three related basic construction systems.

Stainless-steel curtain-wall construction has had an equally remarkable growth and all evidence points toward its continuing. To develop data most useful for architects engaged in stainless-steel curtain-wall construction and design, Princeton University's School of Architecture has recently been awarded a grant from the Committee of Stainless Steel Producers of the American Iron and Steel Institute. Although Type 302 stainless steel containing nickel is no longer available, due to government restrictions, Type 430 has been found to be an acceptable substitute for exterior walls. In the second half of this presentation, the discussion, "Type 430 Stainless Steel for Building Panels," has been prepared by the United States Steel Corporation.



Two early examples of metal curtain-wall construction designed by Architects Holabird & Root & Burgee, Chicago. A. O. Smith, Corporation Science Building, Milwaukee, Wisconsin (left) erected in 1928 is enclosed by fixed-glass lights, held in an aluminum grillage. Monroe-Dearborn Building (right, above) 1935 is enclosed by stainless steel, backed with laminated-plastic spandrels and glass set in stainless steel. Photos: Hedrich-Blessing

aluminum curtain-wall construction

by R. F. Seery*

Curtain-wall construction today demands a more functional design and lower cost than ever before. The problem is to build a light nonloadbearing wall to protect the building interior from the elements of weather and provide a safe enclosure for the occupancy with regard to its location.

Many architects have been extremely successful in achieving new expression for the building façade while providing new methods to solve this basic problem. Architects, builders, and suppliers have all contributed to these developments. The large market gained by aluminum in the building industry in recent years has evidenced its usefulness. Curtain-wall construction is now looked upon as one of the most promising uses for aluminum; its natural advantages and low cost make this possible.

The intent of this article is to present information about materials and methods for aluminum curtain walls. Code or fire regulations are not discussed, but the designer will be given the basic information from which aluminum designing should begin.

advantages

Aluminum has important natural advantages that are present in every aluminum alloy. Its weight, only one-third that of steel, allows larger single sections to be fabricated and erected, thus effecting economies in construction not possible with other materials. Larger fabricated sections mean fewer joints and less possibility of leaky walls.

Weather-resistant aluminum has proven itself for architectural and structural applications. Its affinity for oxygen and natural build-up of a colorless protective surface coating assure this desirable characteristic. Electrochemical processes of anodic finishing provide a thicker protective coating, thereby increasing the inherent corrosion resistance and providing a tougher finish.

The appearance of aluminum can be altered to provide many desirable finishes. The surface can be etched, wire-brushed, or polished, and an additional anodic coating can be applied. For years, castings were the only form of aluminum to present a slate-gray weather appearance. Now, slate-gray finishes are available as extrusions in silicon alloys and as sheet in clad materials. This development has opened new possibilities for aluminum on the building façade, by providing contrasting surface finishes.

Aluminum's workability assures easy forming and fabrication into finished products. Additional economies are effected due to the lower labor cost. There are many instances in architectural design where experience has shown that it costs the same or less to do a job with aluminum, although material costs may be higher. The excellent workability of aluminum holds manufacturing costs down so that the finished cost is lower.

material and alloys

The many alloys and temper designations of aluminum have led to some confusion in the building industry. The numbering system for wrought-aluminum alloys is broken into two parts—for example, the designation 3S-H14. The symbol 3S designates the alloy, while the symbol H14 designates the temper.

The first series of numbers is a guide to the major alloying ingredient *(Table I)*. There may be as many as five other alloying elements in some of these alloys, but these groupings form a convenient system of classification.

The second number designates one of the two temper types. The *non*heat-treatable types, designated by H, are given increased strength by cold working. The heat-treatable type, designated by T, gains in strength by heating and quenching. Each alloy will show its type by the temper designation following its alloy number, unless it has been fully annealed and designated by O; 3S-H14, for example, is a nonheat-treatable manganese alloy and 14S-T6 a heat-treatable copper alloy. The numbers following H and T indicate the degree of temper obtained during processing and the method by which that temper was achieved.

When designing curtain walls, there are three forms of aluminum from which planning should start. They are sheet, extrusions, and castings.

Sheet

Plain, embossed, or clad sheet is available in many sizes and alloys. For the most part, aluminum sheet can be confined to 3S alloy. This manganese alloy is work-hardened to temper and has excellent mechanical properties. 3S has good corrosion resistance and it can take severe bending operations during forming. 3S alloy sheet may also be obtained clad with 43S or 44S alloys. This clad material is used when a special finish is desired. When higher me-

*Architectural and Construction Market, Reynolds Metals Company, Louisville, Ky.

chanical properties are desired, 52S alloy is recommended *(Table II)*.

Extrusions

These have few restrictions and a great variety of expressions can be achieved with proper planning. Die costs are low. Sizes are normally limited to shapes whose cross sections can be inscribed within a 12-in. circle. As larger presses become available, this diameter will be increased. This size limit can sometimes be increased by a novel method: certain extruded shapes can be extruded as a folded shape meeting the limitations of the 12-in. inscribed circle. The folded shape can then be flattened to provide the desired shape.

Extruded shapes in 63S alloy are best suited for architectural applications. High mechanical properties can be obtained by heat treating 63S, and costs are relatively low. When a slate-gray finish is desired, the extrusion alloy 43S should be used. Strength characteristics similar to structural steel are available with 61S alloy in the T6 temper. 61S-T6 is an economical structural alloy to attain higher properties and maintain high corrosion resistance for structural purposes, but the finish differs from 63S *(Table III)*.

Castings

Castings are used when a three-dimensional surface design or a rough-textured material is desired. Casting alloy designations do not follow the numbering system used for the wrought alloys. The letter S is omitted. For general purposes, 43 alloy, an aluminum silicon casting alloy, is used. If an anodic finish is desired and the casting must match a 63S alloy extrusion, then 214 alloy should be used. Castings requiring strength higher than 43 should use 356, which is also an aluminum silicon alloy of the heat-treatable type *(Table IV)*.

methods

The designers' choice of curtain-wall sections will depend largely upon the job the wall must perform. A consideration of fenestration and fire safety must first be concluded. From a construction standpoint, aluminum curtain walls can be classified as prefabricated, facings, or mullion types. Each particular type has its design and functional limitations which must be weighed during planning.

Prefab Panels

These wall panels are composed of an exterior facing and an interior facing, usually with insulation in between. The panel is received completely finished and need only be attached to the structural frame of the building to make the installation. Good standard aluminum designs are merchandised by several manufacturers including Detroit Steel Products, H. H. Robertson, R. C. Mahon, Seaporcel Metals, Steelcraft, and U. S. Plywood. If special design considerations are involved, custom-built units can be obtained from aluminum fabricators and installed on the same basis. Although most prefab panels are constructed from sheet materials, they need not be limited to sheet. Extrusions or castings can be prefabricated in much the same manner.

Architects Ervin & Berne, Denver, Colorado, have incorporated custom prefab aluminum spandrels in their design for the Denver Club Building *(Figure 1)*. These

Table I: Wrought-Aluminum Alloys

Ranges	Principal alloying constituent	Examples
2S	commercially pure alum.	2S
3- 9S	manganese	3S
10-29S	copper	14S
30-49S	silicon	43S
50-69S	magnesium	63S
70-79S	zinc	75S

Table II: Mechanical Properties Comparison for Sheet Aluminum

Alloy	Yield strength
3S-H14	20,000 psi
52S-H14	31,000 psi

Table III: Mechanical Properties Comparison for Aluminum Extrusions

Alloy	Yield strength
61S-T6	40,000 psi
63S-T6	30,000 psi

Table IV: Mechanical Properties Comparison for Aluminum Sand Castings

Alloy	Yield strength
43	9,000 psi
214	12,000 psi
356-T6 (Heat-treatable)	24,000 psi

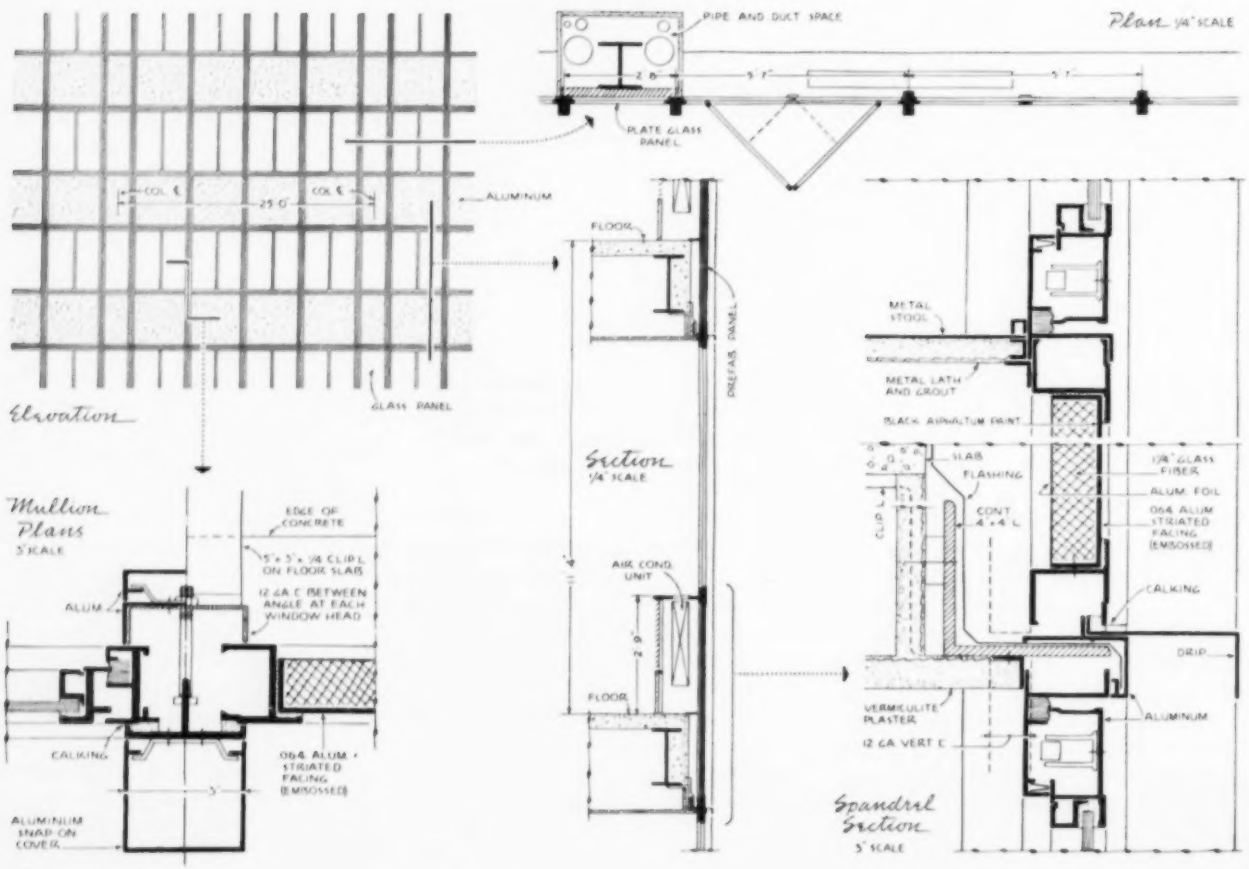


Figure 1—details of aluminum prefab panel construction in the Denver Club Building, Denver, Colo.: Ervin & Berne, Architects.

spandrels, which have a U factor of 0.12, are composed of striated, embossed-aluminum sheet laminated to a glass-fiber insulation backing; the sheet will be treated to provide a satin finish. Flue-type windows containing heat-absorbent glass are made of anodized aluminum. This wall will be erected by the use of clip angles attached to brackets welded to the structural steel frame; each sash with its spandrel below will be placed as a unit.

The Simms Building, designed by Architects Flatow & Moore, Albuquerque, New Mexico, is framed in reinforced concrete and the floor slabs are cantilevered four feet beyond the exterior columns *(Figure 2)*. Spandrels and sash are held in place by 5 I 10 beams bolted vertically to the concrete floor slab at five foot intervals *(see details)*. The spandrels are prefabricated and consist of factory-glazed aluminum-sheet facing with an integral glass-fiber insulation back-up. Vertically-pivoted window units have been specified.

Facings

Sometimes called skin-type spandrels, these facings are classified as those which fasten to or form a part of an adjacent curtain-wall construction. This spandrel type has usually performed a decorative function; however, recent developments in this type classify it as a weather-resisting surface. Facing materials can be any one of the three forms of aluminum previously mentioned; each has been used. Some structures employ these basic forms in combinations to achieve a contrasting effect.

Aluminum castings, long a standard

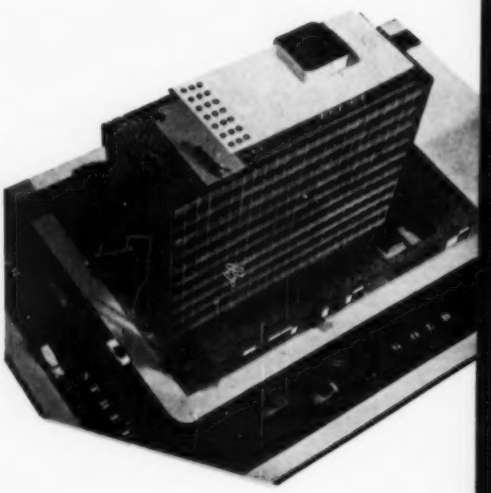
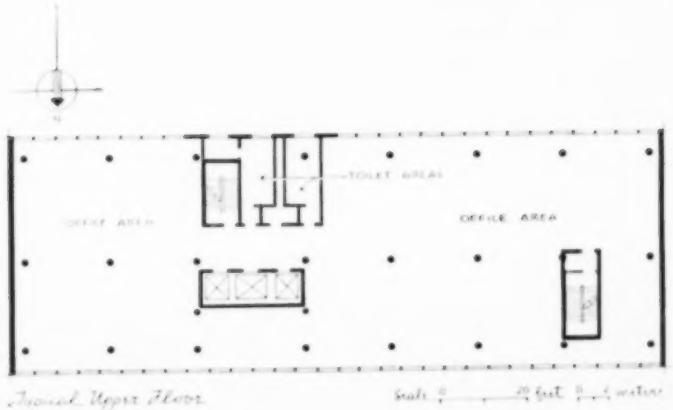
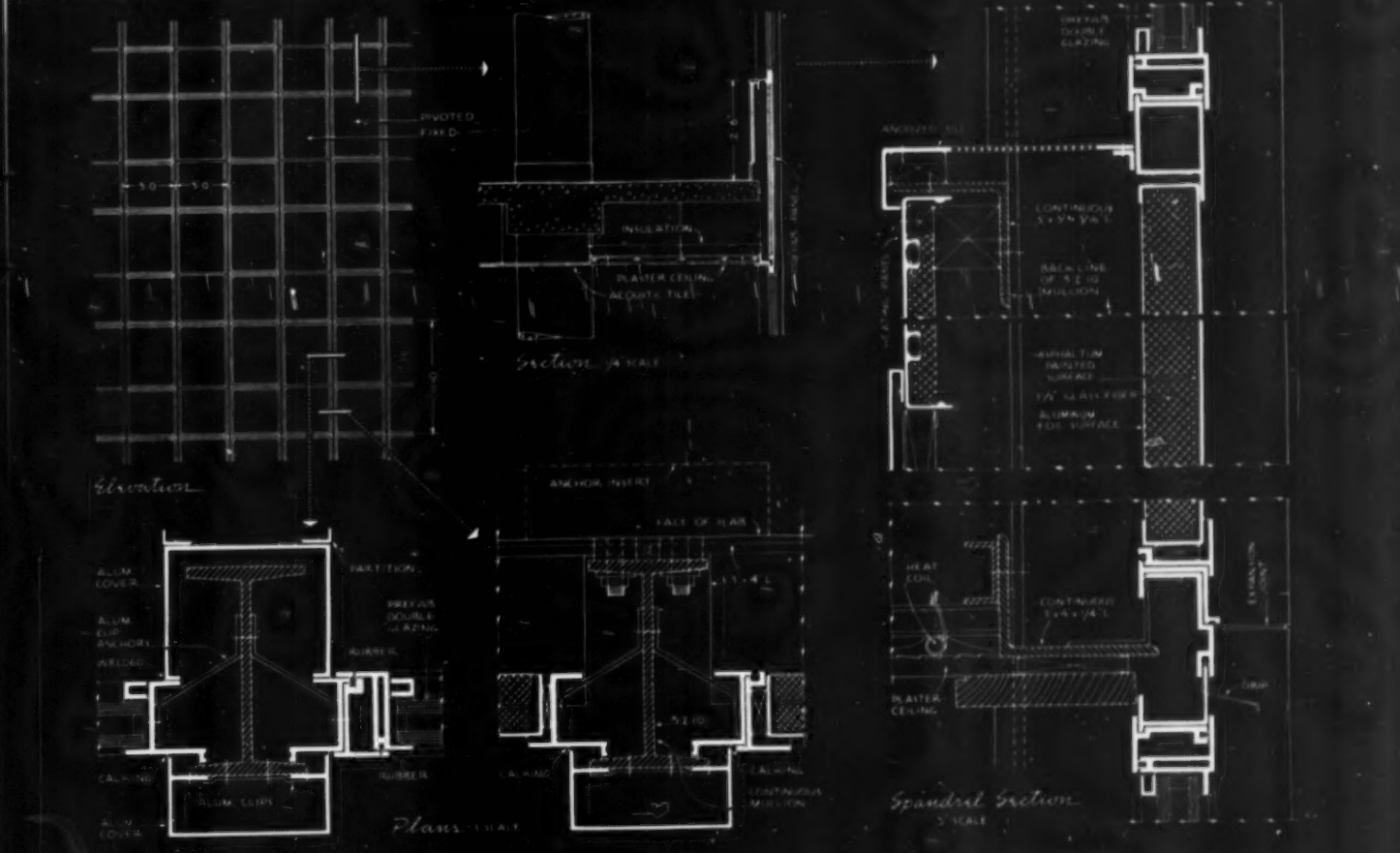


Figure 2—model of the Simms Building, Albuquerque, N. Mex. (right and acrosspage below): *Flatow & Moore, Architects. Typical floor plan and details of aluminum prefab panel construction* (below).



Typical Upper Floor



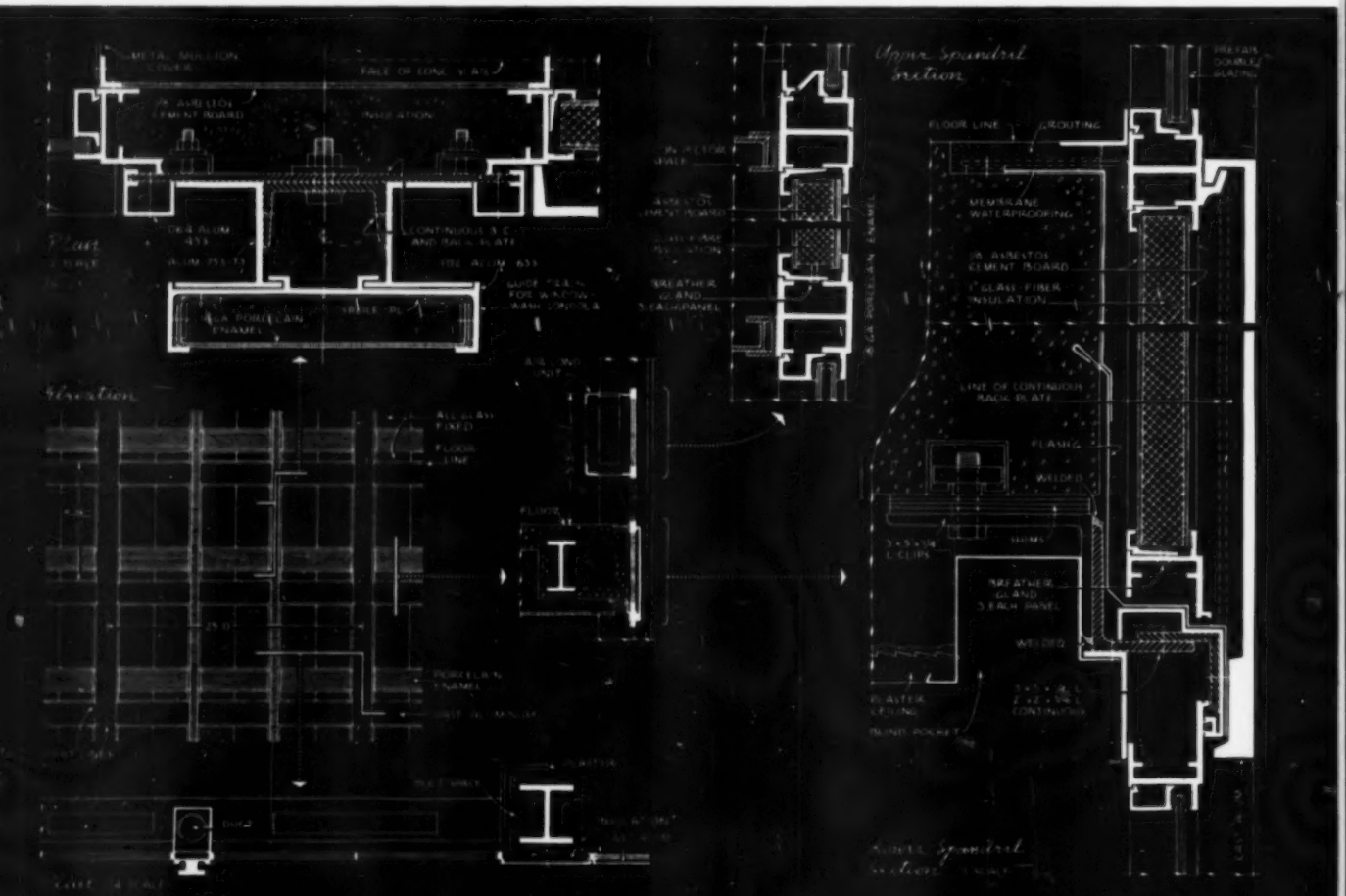
spandrel material, are being incorporated by Webb & Knapp, Inc., New York, in their design for the 1700 Broadway Building in Denver, Colorado. The cast-aluminum facings protect spandrels, columns, and act as guide rails for window washing equipment *(Figure 3)*. Insulated, structural porcelain-enamel panels on the exterior wall support elements of the peripheral air-conditioning system which is encased 12" above the floor level. Behind the aluminum spandrel facings insulated asbestos-cement panels will be installed.

Skin-type panels have been employed by Emery Roth & Sons, New York Architects, in their design for the 99 Park Avenue Building now nearing completion in New York *(Figure 4)*. Approximately 1800 die-pressed wall and window panels were bolted to the building's framework in 6½ days. Although the 10-gage panels are one-story high, they were welded together at the window heads to form two-story lengths. Extruded members between panels extend the full two-story length. As at the Alcoa Building in Pittsburgh (August 1952 P/A) the prefab panels were installed from the inside so that outside scaffolding was eliminated.

Mullion-Type Construction

On the UN Secretariat Building, New York, for which Wallace K. Harrison was Director of Planning, aluminum extrusions were used as facings for the structural-steel mullions *(Figure 5)*. These extrusions were designed in three pieces—one on each side of the double-channel mullions and a facing piece. Side pieces have a natural finish while the facing piece has a con-

Figure 3—details of aluminum castings for the 1700 Broadway Building, Denver, Colo.: Webb & Knapp, Inc., Architects.



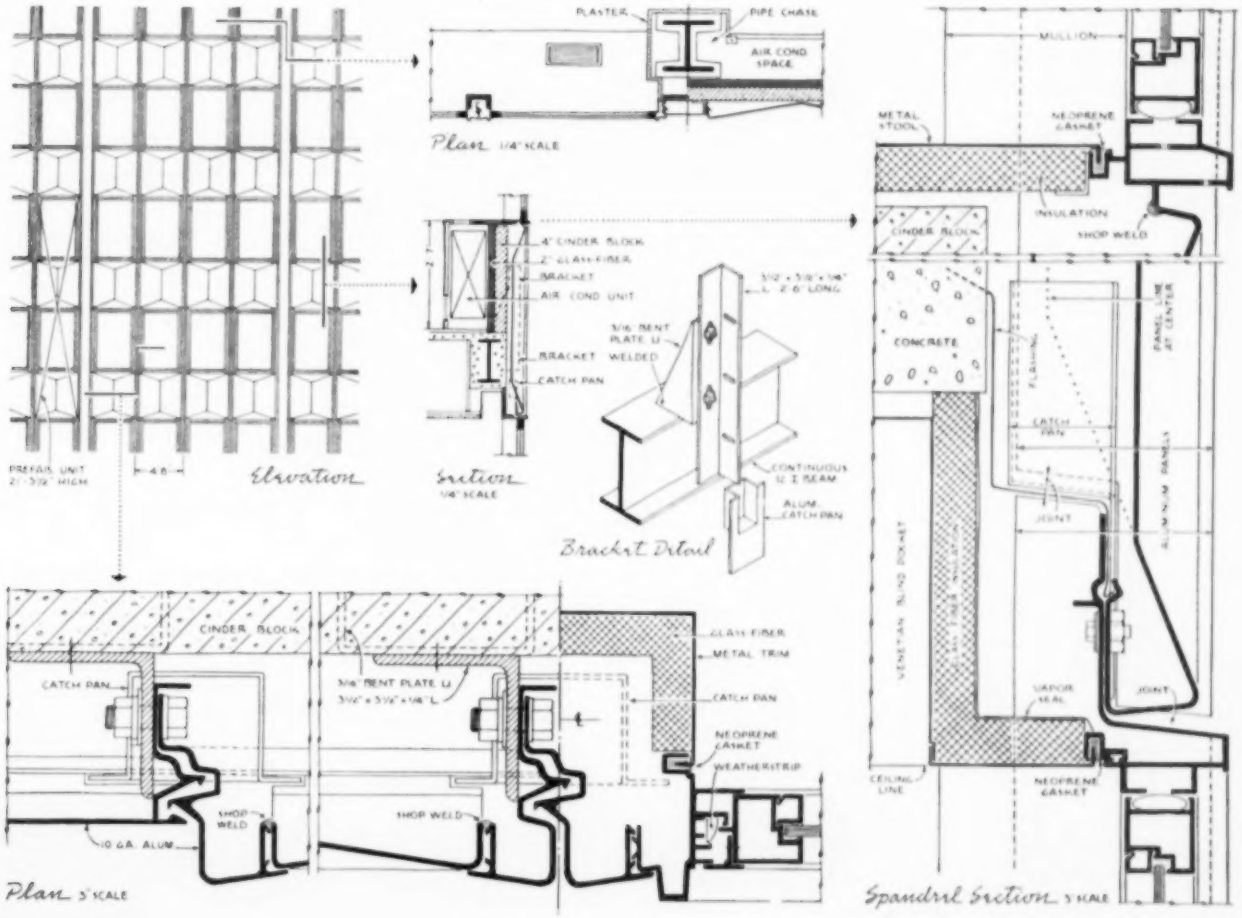


Figure 4—details of aluminum skin-type panels for the 99 Park Avenue Building, New York: Emery Roth & Sons, Architects; Tishman Realty and Construction Co., Inc: owners and builders.

trasting dark finish. Where sides and facing meet, continuous aluminum angles were subsequently needed as corrective measures to make the structure weatherproof; expansion joint covers were also required.

Aluminum fins for the El Paso Natural Gas Building, El Paso, Texas, designed by Carroll & Daeuble, will be constructed of both sheet and extrusions *(Figure 6)*. The sides of the fins will be formed of sheet and the facing will be an extrusion with a dark finish. Spandrels used on this job will also be a combination of formed embossed sheet and matching extrusions.

finishes

Special finishes can be employed to enhance aluminum curtain walls. When finishes are used for this construction, they can be classified as mill, mechanical, chemical, electrolytic, or organic. Many other finishes for special applications can also be applied to aluminum surfaces.

Mill finish is the term used to describe sheet, extrusions, or structurals as received from the mill. A great amount of mill-finish metal is used for curtain walls because natural weathering tends to gray the metal to a uniform surface without special treatment.

Mechanical finishes—grinding, scratch brushing, or polishing—are used to change the surface appearance. Grinding is used principally for removing surface variations from castings. The operation is usually accomplished by means of a rotary grinder but is not in general use for decorative purposes.

Scratch brushing, polishing, or chemical

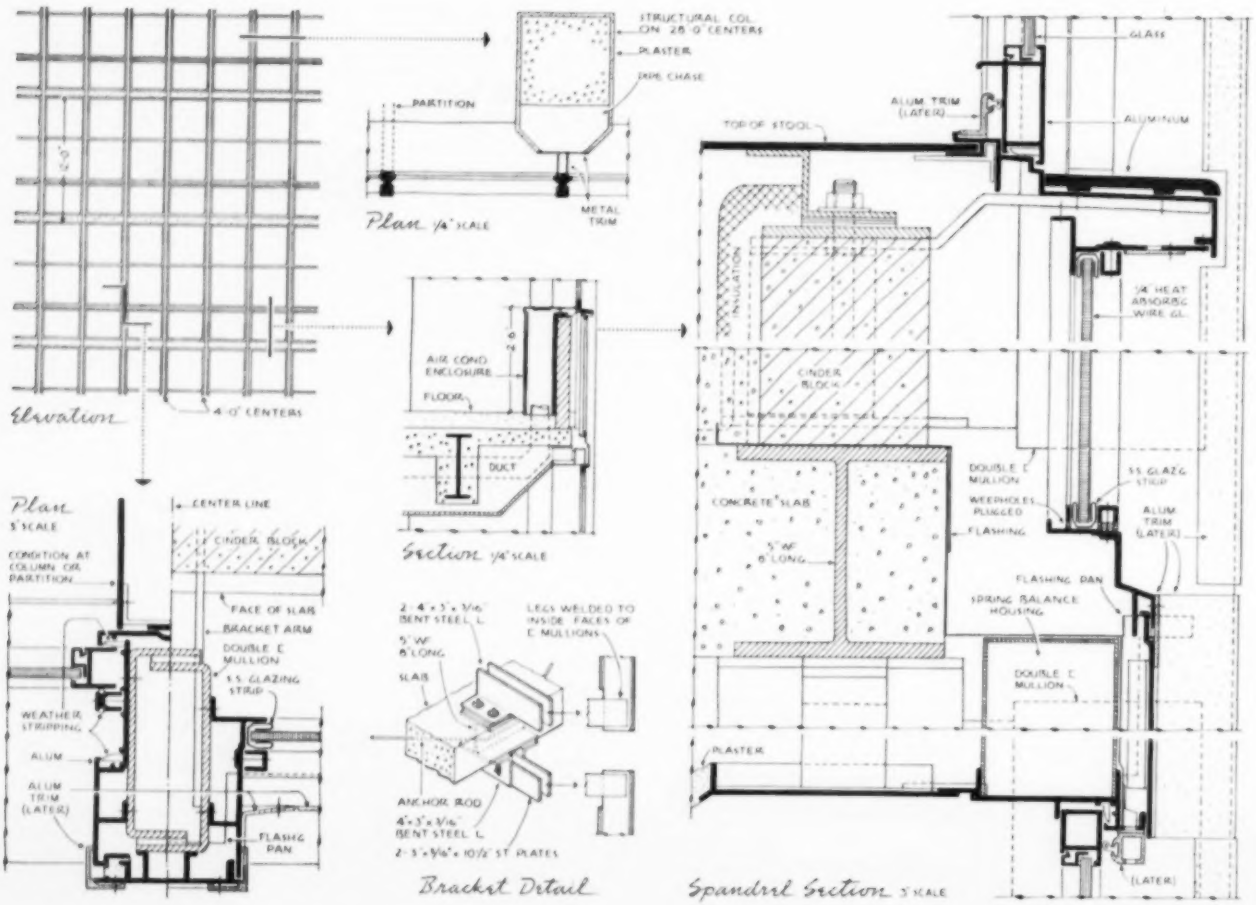


Figure 5—details of aluminum mullion-type construction in the UN Secretariat Building, New York: Wallace K. Harrison, Director of Planning.

etching can be employed when a special surface is desired. Various degrees of scratching or etching produce a wide variation in surface texture. The scratching operation is usually done by a power-driven rotating wire brush. Variations in the wire size produce the varying degree of scratching.

Most etching is done by immersing the aluminum in a heated solution of caustic soda for a period of time and then rinsing. Etched surfaces can be varied by changing the concentration of the caustic soda solution or the time of immersion.

Polishing is employed to remove any abrasive marks on the metal and is done with fine abrasives on wheels or belts. Aluminum is polished in much the same manner as other metals, but with lower wheel-to-metal pressures.

Electrolytic or anodized finishes are applied to aluminum to protect the existing surface or to achieve special coloring. The electrolytic process builds up the oxide surface on the aluminum and forms a hard shell to protect the surface from abrasion or corrosion.

Anodizing is accomplished by passing a current through aluminum suspended in a chrome or sulphuric acid solution. First, the metal is chemically cleaned, then anodized, rinsed, and sealed by a hot water bath. The oxide films built up on the surface by this process may vary from .00005" to .001" in thickness. Depth of the coating is a function of current density and time.

Organic coating processes involve preparation of the metal surface by an etching-type cleaner, prime, then paint. Most paint films used on aluminum are baked on and obtain very desirable and lasting surfaces. Many special finishes of vitreous enamels have proved successful with aluminum panels and offer a permanent finish.

construction

Architectural joining methods are generally confined to welding, riveting, and bolting. Most aluminum curtain-wall construction joined on the job has been done by bolting, mainly because of the ease of handling. Structural work employs riveting or welding. As a general rule, riveting and welding are shop procedures used for prefabricating the panels or facings.

Under normal conditions, steel bolts, galvanized or cadmium plated, are satisfactory. Aluminum bolts should be used under more corrosive conditions. A wide range of aluminum rivets and bolts are currently on the market. When using aluminum bolts or rivets, 61S alloy is generally recommended.

When compensating for expansion and contraction, it must be borne in mind that aluminum has about twice the thermal expansion of ferrous metals. Expansion joints designed into the panels should allow about $\frac{3}{8}$-inch for every 10 feet of space.

Minimum thickness of metal in extrusions and castings is governed by the process. Thickness of sheet must be sufficient to prevent buckling or oil canning. There is no "rule of thumb" or available data on recommended thicknesses as they depend on many factors including methods of forming and fabricating the wall, the area, and so on. The thicknesses shown on the details in this article are considered well chosen and so can be useful as a guide.

Contact with dissimilar metals can sometimes be damaging if moisture is present for any extended period and galvanic action begins. A coat of bituminous paint applied between the metals will prevent galvanic action.

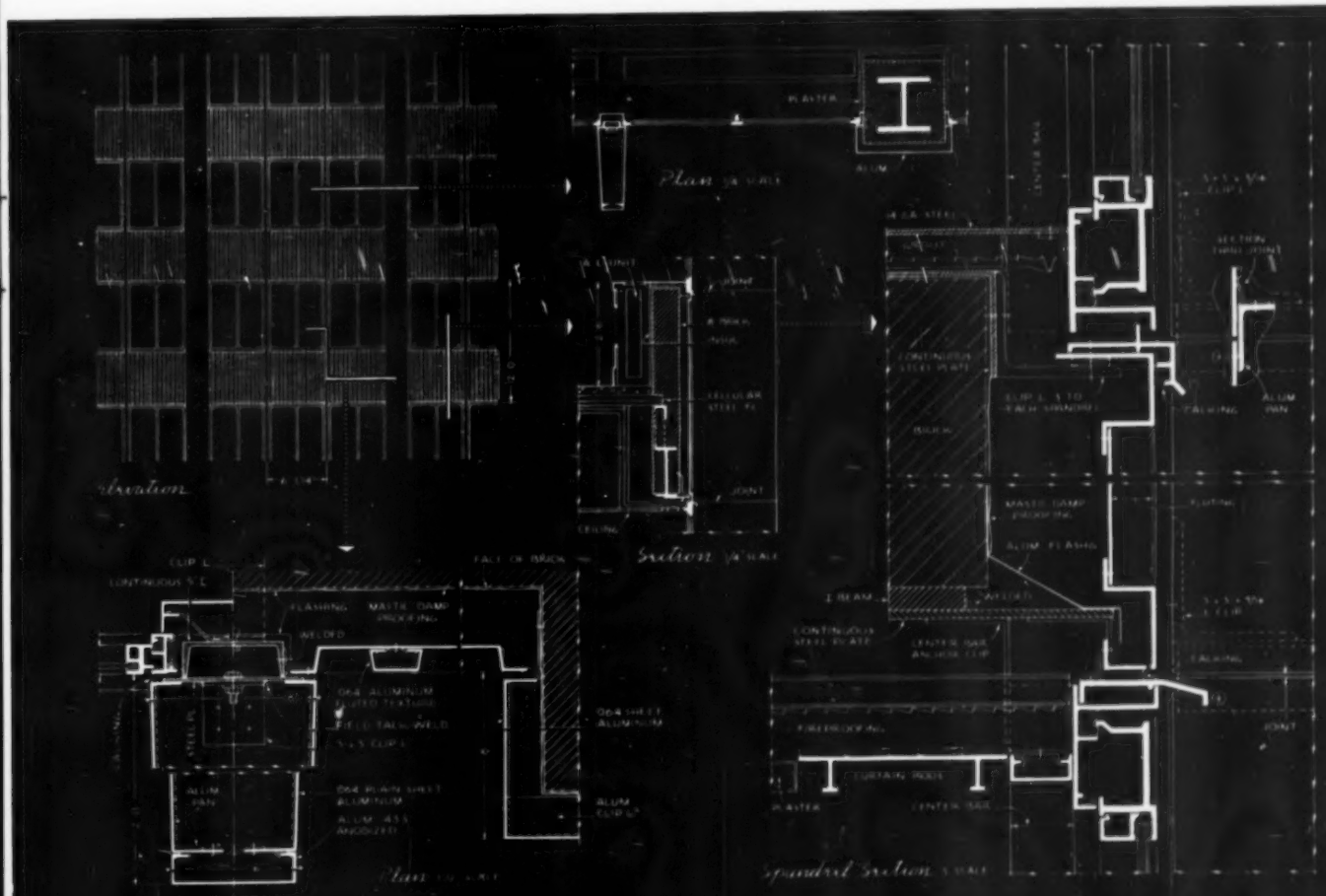
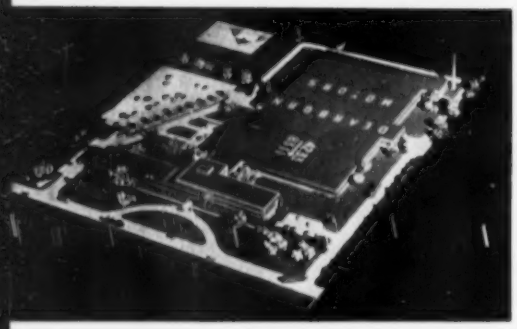


Figure 6—detail of aluminum fins for the El Paso Gas Company Building, El Paso, Tex.: Carroll & Daeuble, Architects.

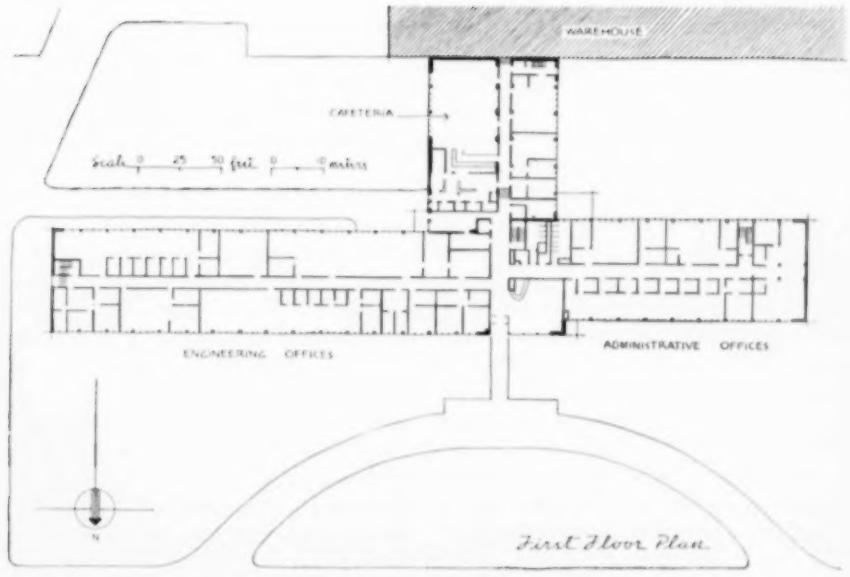
office and warehouse

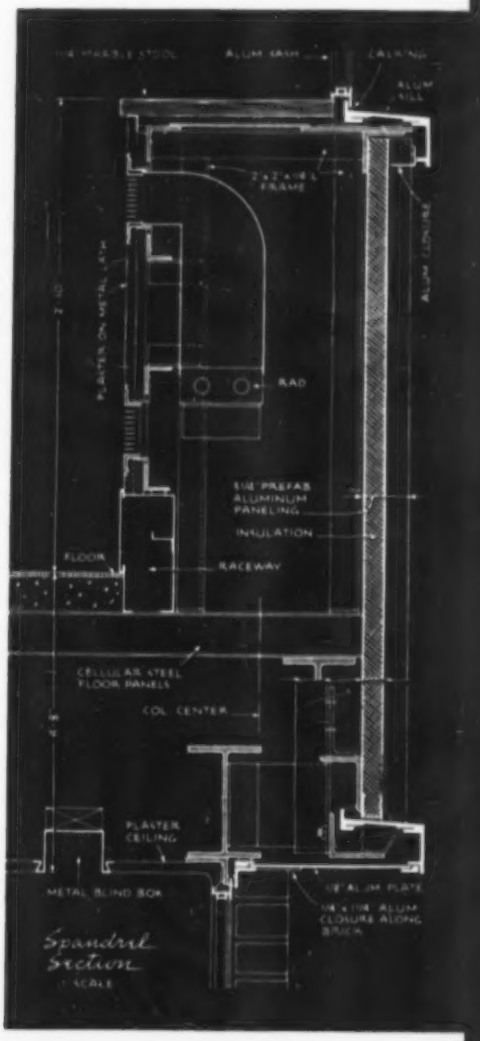


Office and warehouse buildings for the Dearborn Motors Corporation, national marketing organization for Ford tractors and Dearborn farm equipment, have been located on an 80-acre site at Birmingham, Michigan *(model at left)*. In meeting the requirements of the client, Giffels & Vallet, Inc.—L. Rossetti, Associated Engineers and Architects, Detroit, have designed a structure to house the business and executive offices of the company, with a connected warehouse for storage of tractor parts, also containing shops and labs.

The office building, a three-story reinforced-concrete structure with basement, provides 125,000 sq ft of usable space *(plan acrosspage)*. Its exterior walls are of face brick, with aluminum sash. The north and east elevations are of prefab insulated-aluminum curtain-wall construction. Possessing remarkably low heat transfer and vapor transmission characteristics, each of the cellular-aluminum panels in the curtain walls is approximately 7′ 0″ high and has an over-all thickness of 3¼″ that includes a 1½″ insulation backing *(section acrosspage)*. In the roof construction, precast-cement tiles are covered with a 20-year composition roof. Throughout the building, cellular-steel floors are covered with concrete-stone fill and surfaced with asphalt tile. Metal partitions permit maximum flexibility to meet the changing needs of the office space.

Linked to the office building by a cafeteria at ground level, the warehouse covers an area of 170,000 sq ft. Its walls are principally of brick sill construction with steel sash and aluminum siding. Insulated-metal roof decking tops the shops and warehouse areas. Floors are poured concrete while the cinder-block walls separate the various elements within the warehouse.





Reception room off main entrance of office building displays merchandise to be marketed (left). *Each of the prefab insulated-aluminum panels on north elevation is approximately 7' high. Conference room on third floor* (above) *has both flush-type fluorescent lighting and down lighting.* Photos: Lens-Art

type 430 stainless steel for building panels

by R. M. Stodgell*

The use of stainless steel for exteriors of insulated panels for buildings has spread rapidly in the years since the war and particularly in recent months. Acceptance of stainless steel for building panel construction—a natural complement to structural-steel framework—has been the result of many influences. And underlying them all is the remarkable success stainless steel has had in the architectural field during the past 25 years.

Basically, the idea of using a panel wall of lightweight material to construct "complete" building walls is not new. The increased interest and growing acceptance of stainless steel in panels has been based on practical necessity. High labor costs combined with many other factors have created a demand for a simple, permanent, virtually maintenance-free building wall material. Because of high land and building costs, the availability of more rentable, or usable interior space—made possible by this type of construction—has attracted many builders.

The use of insulated stainless-steel building panels offers all of the basic advantages inherent in modern curtain-wall design. An architect or builder can think in terms of thin-wall construction weighing only 5 to 8 psf (*Figures 1 and 2*). This results in savings and other economic gains all along the line—in reduced foundations, lighter structural framework, shorter erection time, earlier occupancy, and increased floor area.

In addition, stainless-steel panels are attractive, durable, and at the same time, extremely versatile. They are lightweight and can be installed quickly. They can also be dismantled readily and reused immediately. This versatility of stainless-steel panels, combined with their permanence, has made them attractive to both building owners and metal fabricators.

The use of stainless-steel panels is not restricted to any particular type of structure. This article, however, deals primarily with that large group of buildings, usually with low silhouettes, which includes power houses, laboratories, research and business offices, plant offices, and schools. Stainless-steel panels are also being used extensively for many other types of structures, including multistoried office buildings and large industrial buildings.

Stainless-steel panel construction generally consists of a formed sheet of stainless steel, a layer of insulating material, and a carbon or galvanized-steel backup sheet, the entire assembly usually being from 2" to 4" thick (*Figure 1*). Today, fabricators of panels are producing formed sections for modular construction ranging in widths from 12" to 24". The length of these panels varies greatly, depending on the design of the building involved.

Formerly, in architectural work, Type 302 stainless steel containing approximately 18 percent chromium and 8 percent

*Stainless Steel Division, United States Steel Corporation, Pittsburgh, Pa.

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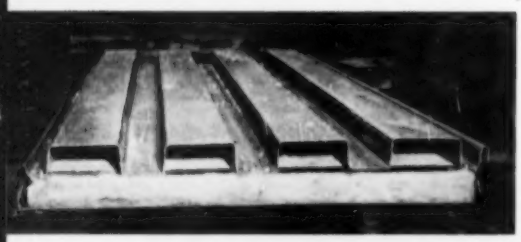

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Typical panel (left) *has glass-fiber insulation between stainless-steel facing and galvanized-steel back-up sheet. A 14-sq-ft panel* (below left) *weighing but 98 lb can be easily carried by two men. Just before erection, workman calks joint flanges* (below right) *as proper sealing builds up vapor barrier over entire exterior of wall to reduce "U" factor. Two men bolt panel to structural steel at sill, in freezing weather* (right).

nickel was usually specified. More recently, however, because the National Production Authority has prohibited the use of nickel-bearing stainless steels for curtain walls, architects have turned to Type 430 stainless, containing approximately 17 percent chromium and no nickel for exterior applications.

This straight chromium steel is similar to 18-8 in appearance, possesses adequate mechanical properties, and very effectively resists corrosion. Test corrosion samples of Type 302 and Type 430 exposed for 20 years on U. S. Steel's test rack installations in two separate, highly industrial atmospheres, have remained in excellent condition except for a normal accumulation of surface dirt.

Because of differences in chemical composition, Type 430 is inherently brighter or more reflective than Type 302 in the cold-rolled finishes. But, contrary to a general belief that stainless must always be a highly polished, bright, and reflective

9

Wing of Technical Center, National Malleable and Steel Castings Company, Cleveland, Ohio (right above): *Dalton & Dalton Associates, Architects-Engineers. Type 430 (20 gage) stainless steel panels, 9000 sq ft total, were formed on a Yoder mill while parapet caps of the same material* (right below) *were formed on a break press.*

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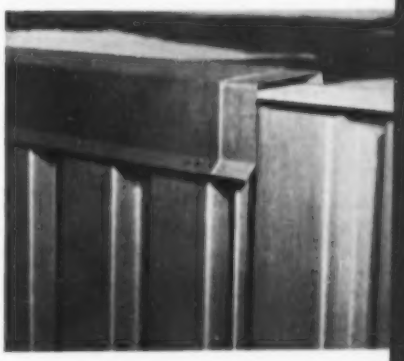

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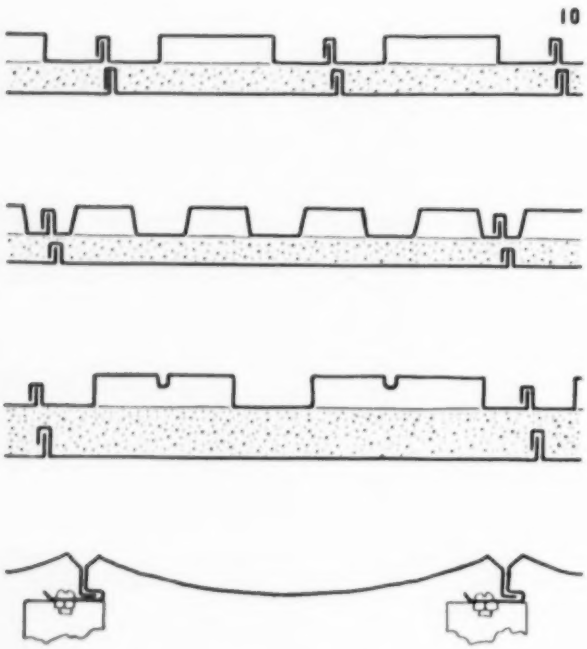
Welding carbon-steel back-up sheet to structural girt of new building (left) *permits quickest method of erection. Three men can easily hoist and place panel in position before bolting or welding to girt* (above left). *Sill flashing, below fixed corrugated-glass windows, is Type 430 (20 gage) stainless steel* (right above).



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Typical stainless-steel panel sections. Section without insulation (bottom) *was recently used to surface exterior of the existing Heppenstall Building in Pittsburgh.*

material, a stainless finish has a cold-rolled surface which diffuses rather than reflects light falling upon it. It has the approximate density of the standard bright finish and yet it does not possess the "white pickled" appearance of the dull finished product. This finish is obtained by running the stainless-steel sheets through a set of rolls having surfaces that are roughened by grit or shot blasting.

This less-reflective finish requires no special handling or protection. Once in place, it weathers to a uniform dull gray. Type 430 stainless steel, with this special architectural finish, was used for the first time on the three Gateway Center Buildings in Pittsburgh *(page 109, November 1952 P/A)*, and more recently on the National Malleable and Steel Castings Company's laboratory office building in Cleveland *(Figure 9)*. On each of these buildings there are large areas of stainless steel where anything but a nonreflective surface would be a source of annoyance. This special architectural cold-rolled finish has also been used for four of the buildings at U. S. Steel's new Fairless Works in Morrisville, Pennsylvania. The general office, dispensary, metallurgical laboratory, and fire house are all completely surfaced with Type 430 stainless steel.

Certain design treatments which break up areas of bright reflection may, in some instances, permit the use of brighter finishes on large panels. The use of polished finishes on stainless steel is generally confined to entrance trim, fascias, soffits, and in some instances, to window sash. The Number 4 finish—a polished finish—is usually specified for such applications. But for large wall areas the polished finishes are usually objectionable since they are too reflective and are more costly.

The smooth, dense surface of this steel will, of course, minimize the adherence of airborne dirt, although stainless-steel walls —like any other walls—do require occasional cleaning. How often depends on atmospheric conditions in the area that the building is located. But in any event, the cleaning of stainless-steel walls is relatively simple.

modular panels

One of the important features of a stainless-steel panel is its modular construction which offers advantages from the very outset, from the drawing board where it reduces drafting-room time and simplifies detail, to actual construction, where wall and window erection is simplified. Doors and windows fall into line with modular design which eliminates much of the time lost by making cutouts and adjustments on the job.

The availability of stainless steel in both cut lengths and coils makes it possible to secure a wide range of panel lengths. Panels up to 18′ to 20′ long are readily obtainable and will, in many cases, eliminate the necessity for horizontal joints. Even longer panels can be obtained, if required.

proper design of stainless-steel skin

To keep panel construction competitive with other building methods, stainless-steel fabricators have kept the design of panels simple, yet flexible. Basically, the architect in designing and the panel manufacturer in fabricating stainless-steel panels must keep in mind the relationship between metal thickness and surface treatment. The fabricator's objective is to use a minimum thickness of stainless steel and yet obtain a maximum section modulus—or strength in section. But using stainless steel, a fabricator can consider lighter gages because of the steel's high mechanical properties and superior corrosion resistance.

The experience of several fabricators indicates that when using stainless sheets of 20 or 22 gage, it is important to restrict the width of flat surfaces to no more than four or five inches *(Figure 10)*. Lighter gage sheets should, of course, have even smaller areas of flat surface. Waviness will be evident if light-gage sheets are used for large areas having flat surfaces. Flat surface areas may, of course, be increased proportionately as thicker sheets are used. And by forming sheets in various patterns, flat areas are decreased in size and greater panel rigidity is obtained.

fabrication of type 430 for panels

Fabricating Type 430 stainless steel for a building panel's exterior skin has been accomplished satisfactorily. Stainless steel

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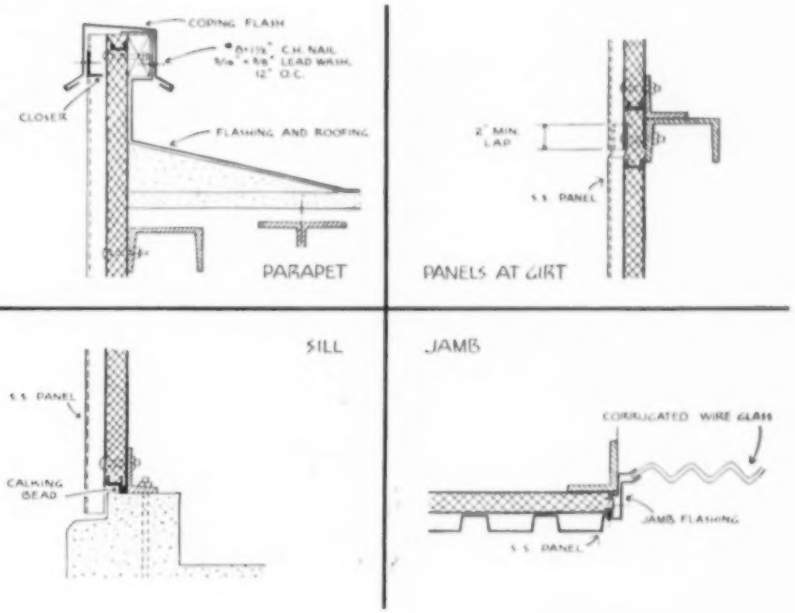


Recommended structural details for erection of panels. Type A #12 x ¾" stainless-steel screws are fastened 12" o.c.; bolts are ⅜" x 3" stainless-steel round heads, and washers.

for panels of the type discussed in this article has been successfully Yoder Mill formed to a depth of 1½" to 2". Flashing, sills, parapets, and fascia detail are all easily formed on a brake press *(Figure 8)*. However, when using stainless-steel sheets heavier than 18 gage it is important to design fairly generous corner radii into architectural products.

fabrication of panel

Fabrication of a complete panel unit begins with, first, a stainless-steel outer skin (20-22 gage, weighing 1¼ to 1½ psf); second, a 1½" to 2" core of incombustible insulating material; and third, a carbon steel or galvanized steel back-up sheet which completes the wall section and provides a flat, uniform interior surface suitable for painting. Carbon-steel channel stiffeners are usually used to connect exterior and interior panels.

panel joints

Panel joints and laps must be properly sealed. This can be accomplished by the use of male and female flanges at vertical joints and by swaged or die offset and sections to provide flush horizontal joints in the wall. Also, calking is frequently applied to vertical interior and exterior panel joints before erection *(Figure 3)*. Careful sealing not only guards against the possibility of moisture being entrapped at these points but also will help maintain the effective vapor barrier presented by the steel surfaces. In addition, the sealing of joints contributes to the reduction of the over-all heat transmission ("U" factor) of a panel wall. It is advisable, too, to have no through metal-to-metal contact which reduces a panel's insulation value.

insulation

A typical range of over-all "U" factors for a stainless-steel panel wall having 1½" of mineral or glass insulation would be from 0.25 to 0.15 Btu/hr/sq ft/degree F of temperature difference.

erection of panels

When the stainless-steel panels arrive at a building site, they are ready for erection as soon as they have been removed from the shipping crates. Paper protection for the stainless-steel surfaces, if it has been specified, can be removed and erection crews can quickly drill holes in the four corners of the panels if they are to be bolted to girts! Frequently, panels are tack-welded to the girts. In certain types of insulated panels calking beads are laid in the joints and the panels are then ready to be attached to the structural steel framework. *(Figures 3, 4, 5, 6, 7, and 8 illustrate various steps in the erection of stainless-steel panels; Figure 11 shows typical structural details.)*

During the past year several architects have taken advantage of the adaptability and attractiveness of stainless-steel panels by using them in combination with other building materials. One example is the National Malleable and Steel Castings Company's building mentioned above and another is the Edison Junior High School near Pittsburgh. On both of these buildings Type 430 stainless-steel panels, with architectural finish, have been used in combination with brick. The result has been colorful and attractive, as well as functional. Such material combinations are unlimited and offer the imaginative architect a type of construction which is desirable for many types of offices and institutional buildings.

conclusions

Finally, in review, the advantages of Type 430 stainless-steel panel construction include a *reduction in weight*—a possible reduction of wall weight per panel from 100-150 psf of brick-masonry construction to 5-8 psf of stainless-steel panels; *improved insulation*—the coefficient of thermal conductivity ("U" factor) of an insulated stainless-steel panel is approximately 0.15, the equivalent of a 10" masonry cavity wall with 1" of insulation and a plastered interior; *flexibility and versatility*—the original panels can be removed quickly and reused with little or no loss of material; *ease of erection*—experienced crews can erect panels in less than one-third the time required for conventional brick-masonry walls. All these advantages — and many others — have added to the growing popularity of panel construction, using Type 430 stainless steel. This kind of construction is not only attractive—it is economical and practical.

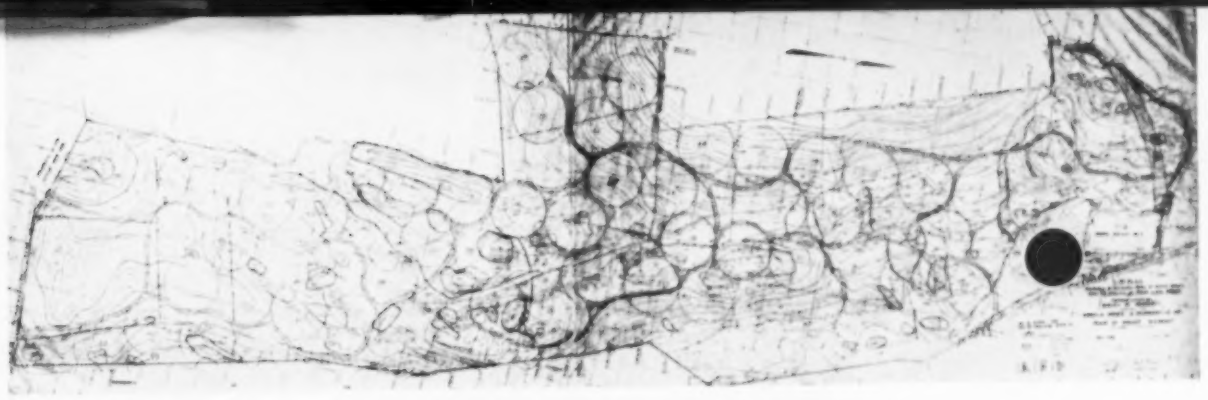
two houses

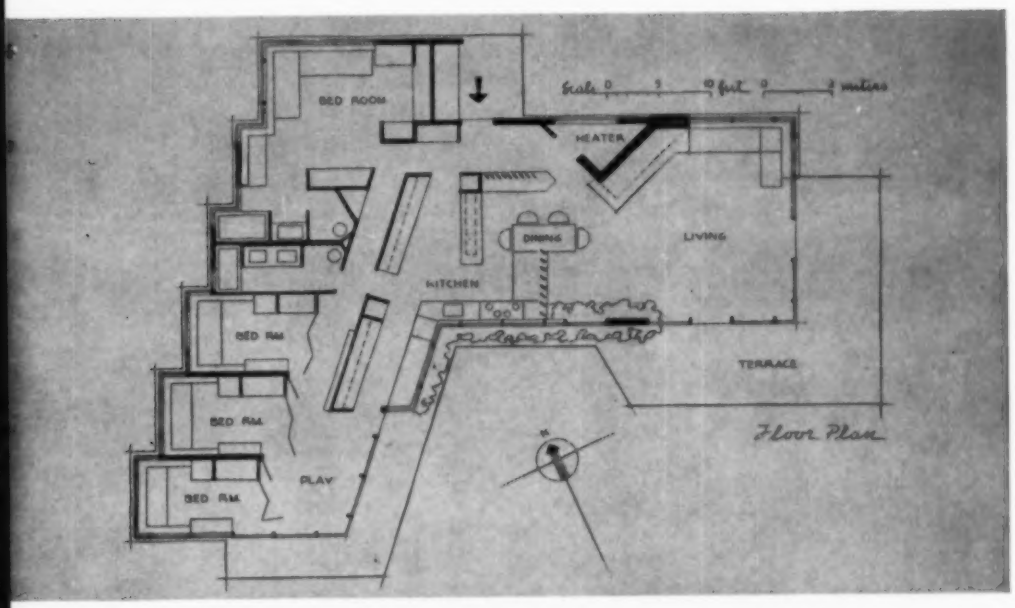
David Henken . . . former Taliesin student . . . designer and builder at Usonia . . . uses form, materials, and color organically. Two of his houses are illustrated here as unique solutions of space, and expressions in three dimensions.

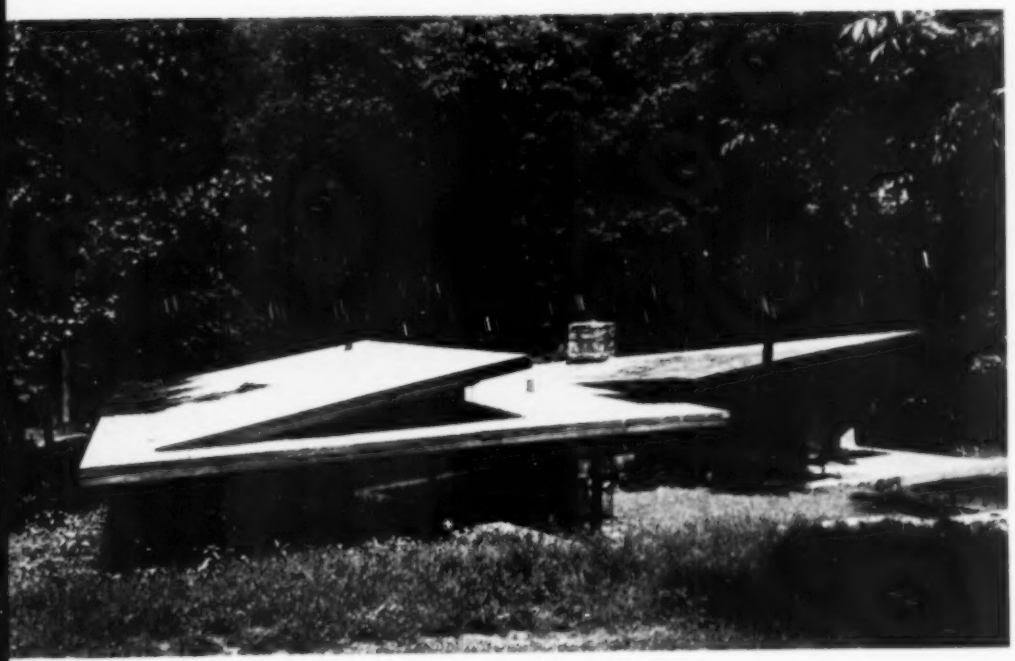
location	Pleasantville, New York
designer	David T. Henken
general contractor	Robert Chuckrow Construction Co.

Earth-hugging organic architecture is familiar enough to arouse frequent accolades, but only occasional skepticism. Rejecting the "box," organic emphasis is upon a three-dimensional integration of space. Designer Henken's cypress-frame and glass house is in the lee of a massive circular creation by Frank Lloyd Wright, and is consistent with many of the best principles of organic architecture. It contrasts camouflage with cantilever . . . what is at one moment obviously earth-bound, at another seems to be suspended in flight.

On a gently sloping site in Usonia, a co-operative community, Henken superimposes elements of the hexagon upon a square module, within the confines of a circular plot. This is a house planned for a family of four, and its three small children's bedrooms convert it into one play area. Each bed, with its storage chest beneath, slides against the wall. Doors on piano hinges fold back and one entire wing of the house may be opened upon a bedroom terrace. Room divisions are simplified by a rhythmical offsetting, and make full use of the northern exposure. But the nucleus of the house is in the shaded-clerestory utility area. The kitchen, laundry, sewing, and art activities are compartmented into a work space . . . permitting constant supervision in three directions.

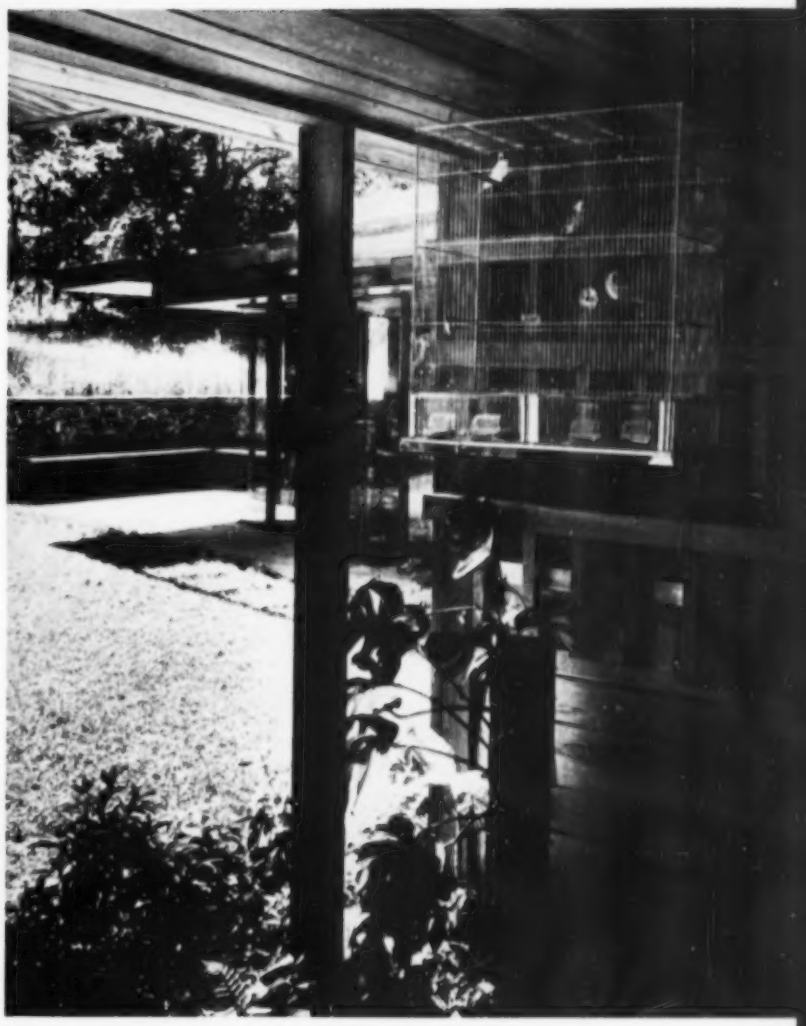




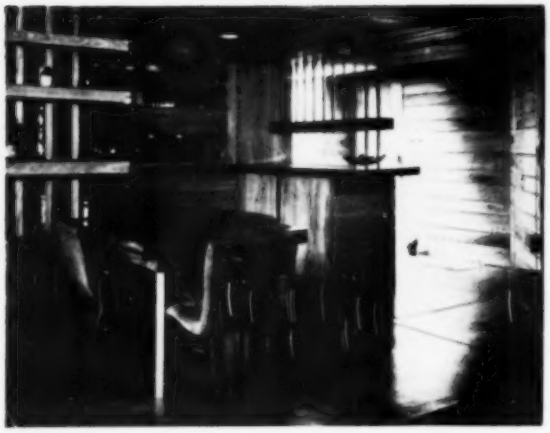


The bedroom wing, oriented north, opens upon a terrace in the foreground (above), and maximum light and ventilation is assured by a clerestory above the utility area.

Photos: P. E. Guerrero



Throughout the house, native stone is contrasted with tile-red concrete floors and oiled cypress, as seen in the living room (above); *a view toward the bedroom terrace* (right); *and the dining areas with skylit entry and louvered divisions* (below).



The living room, deeply shaded on all sides, sweeps sharply to the south. Its cantilevered terrace is a tile-red slab growing from the side of the hill . . . contrasting with the oiled and varnished gold of the cypress siding and the rough-hewn native stone. By a combination of corner glass windows and clerestory lighting, at almost every turn there is a changing light-and-shade pattern and a rich display of color. Rigid and infra insulation below the plank and spline ceiling, windows opening at different heights and in all directions, and a radiant floor slab combine to provide ideal temperature conditions. Storage space is voluminous. Cabinets, closets, shelves and chests are built in everywhere. Throughout the house, areas open onto secluded terraces, and there are constantly new perspectives.

two houses

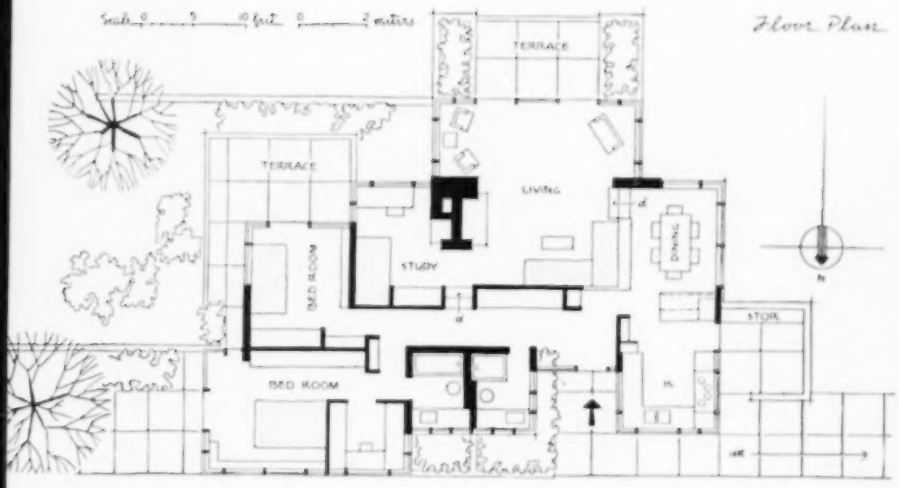
location	Bronxville, New York
designer	David T. Henken
landscape architect	Arthur Edwin Bye, Jr.
structural engineers	Joseph Saravis, P. E.
general contractor	Henken Builds, Inc.

This two-bedroom house by Designer Henken is set on a sharply-inclined slope curving continuously about three sides of a suburban plot. By taking advantage of land forms imposed by unusual and rocky site conditions, with luxuriant natural growth, little blasting was necessary—only the sharp ledges were cleaned off—and the house then being molded to their forms. To make full use of a difficult site, bedrooms and the work spaces were set on the north side of the house at the highest level. Following the slope, living and study areas were located three risers lower. The living room window wall opens fully along the south onto a cantilevered terrace, supported by two massive reinforced-concrete girders.

Throughout the house, masonry block was chosen for its distinctive color and texture, harmonizing well with oiled-cypress plank and tile-red floors. Besides the retaining and foundation walls, there are planting boxes, fireplaces, and exterior walls of salmon-pink concrete block. And harmonizing with this color, are the continuous tile-red floor slabs and the entrance steps—wafer-thin cantilevered slabs.

Combining both structural and finishing operations, 8″ lightweight-aggregate, colored-concrete blocks were used, and a clear silicone water-repellent was then applied. The floor slab, containing coils for a gas-fired, hot water radiant-heating system, is poured over a sub-slab of vermiculite—all carried on precast-concrete joists. Frame walls are insulated by reflective aluminum foil and block cavities are filled with vermiculite insulation. Above, the ceiling framing, V-jointed and splined 3″ x 10″ fir plank spanning up to 12 feet, is covered by composition roofing over 1½″ rigid insulation.

The horizontal roof plane, its sweeping overhang designed for sun control, deeply shades the interior areas. Upon its rugged stone outcroppings, it is a house oriented to provide the maximum usage of the site—materials and color contrasting subtly with nature. At one moment it is a part of its Rousseau setting . . . at another it is thrust sharply into space.



View of the entrance shows relation of planting boxes to design, the V-joint shiplap cypress siding of walls and soffits, and the overhead lighting (above).

Pierced-block storage wall, adjacent to utility area, screens service yard from entrance to house, located at the highest point of the site (left). Photos: Pedro Guerrero

The living area, three steps below bedroom and work spaces, opens onto a tile-red concrete terrace imposingly cantilevered to the south (above). *The study, convertible to a guest room, connects to living wing by private corridor in foreground* (left).

Kitchen (above left) *is finished completely in wood. It directly adjoins dining area* (below left); *walls are concrete block; lighting is by fluorescent tubes in trough; windows are casement-type cypress sash.*

Open planning and interpenetration of spaces and volumes, apparent throughout the house, is most characteristic of entrance and living areas (above); *the dining unit* (left); *and a view through to the terrace* (below).

branch library

location	Denver, Colorado
architect	Victor Hornbein
mechanical engineers	Marshall & Johnson
electrical engineer	Arthur F. Weers
general contractor	Bellamy & Williams

A library is a center for learning and enlightenment; it is also a retreat for quiet, concentration, and reflection. If one were to search for architectural symbols to express the library function, on might look for a combination of two apposite elements —open, windowed areas to let the sun flood in and to facilitate reading, and partially enclosed walled areas where study and reading can proceed without distraction.

In the Frederick R. Ross memorial branch of the Denver Public Library system, the architect seems to have employed precisely these. Whether one considers the total design from this symbolic point of view, or from the point of view of the abstract design satisfaction of mass contrasted with openness, or from the very matter-of-factual viewpoint of housing bookshelves, at the same time obtaining sufficient daylight, this sparkling little library is well worth study.

In structure, too, the building is equally

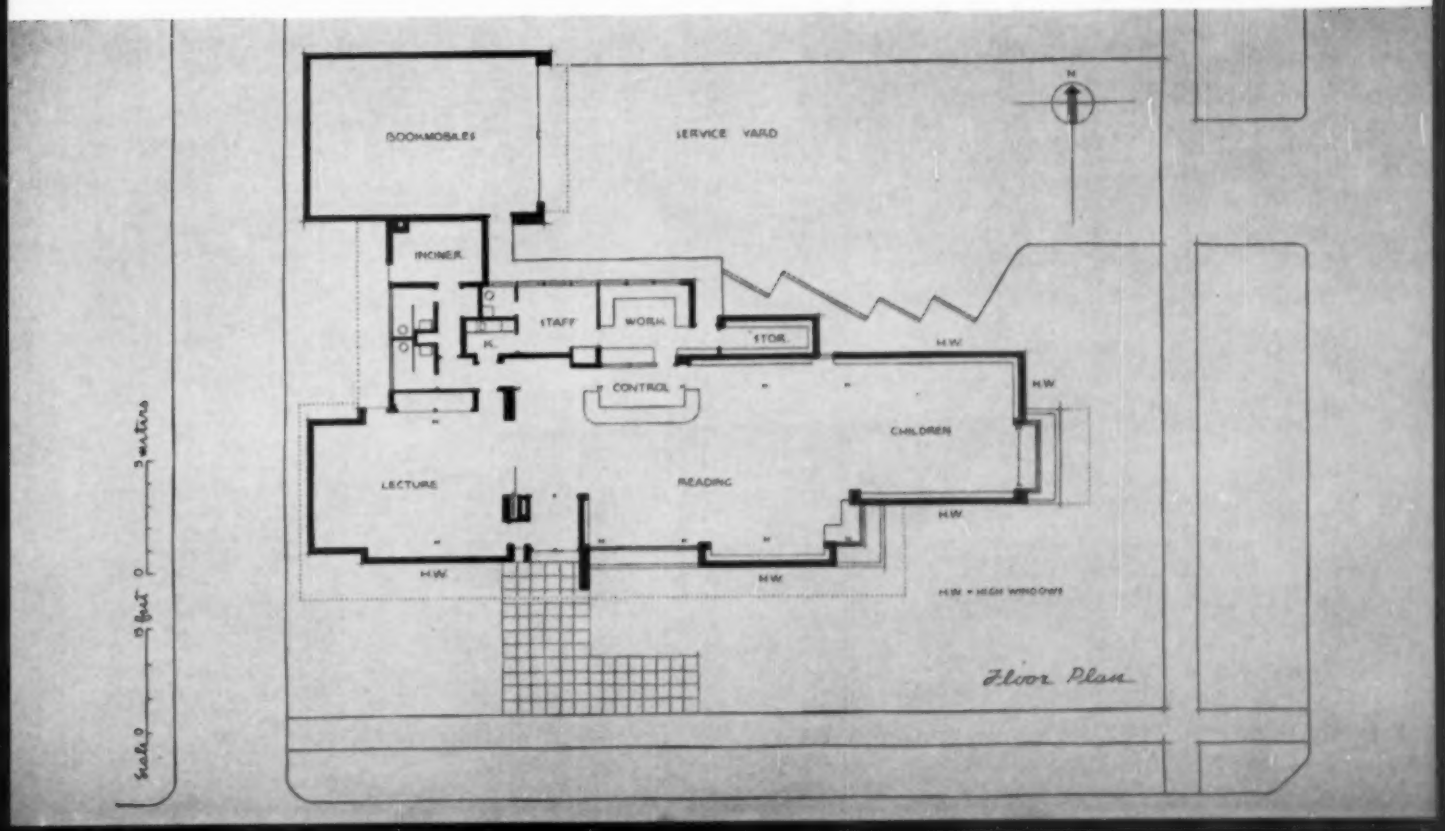
frank, employing the arresting device of exposing the steel frame—the columns on the inside of the building; the beams on the outside. Wall areas, including partitions (except in toilet and work rooms, whose walls are of glazed structural tile) are red brick, laid up with raked joints. All cabinetwork is of oak, and the exposed steel is painted blue-green; the asphalt-tile flooring is a medium-dark green. Interspersed throughout the glass areas are red and green stained-glass inserts, the books themselves adding variety to the color scheme.

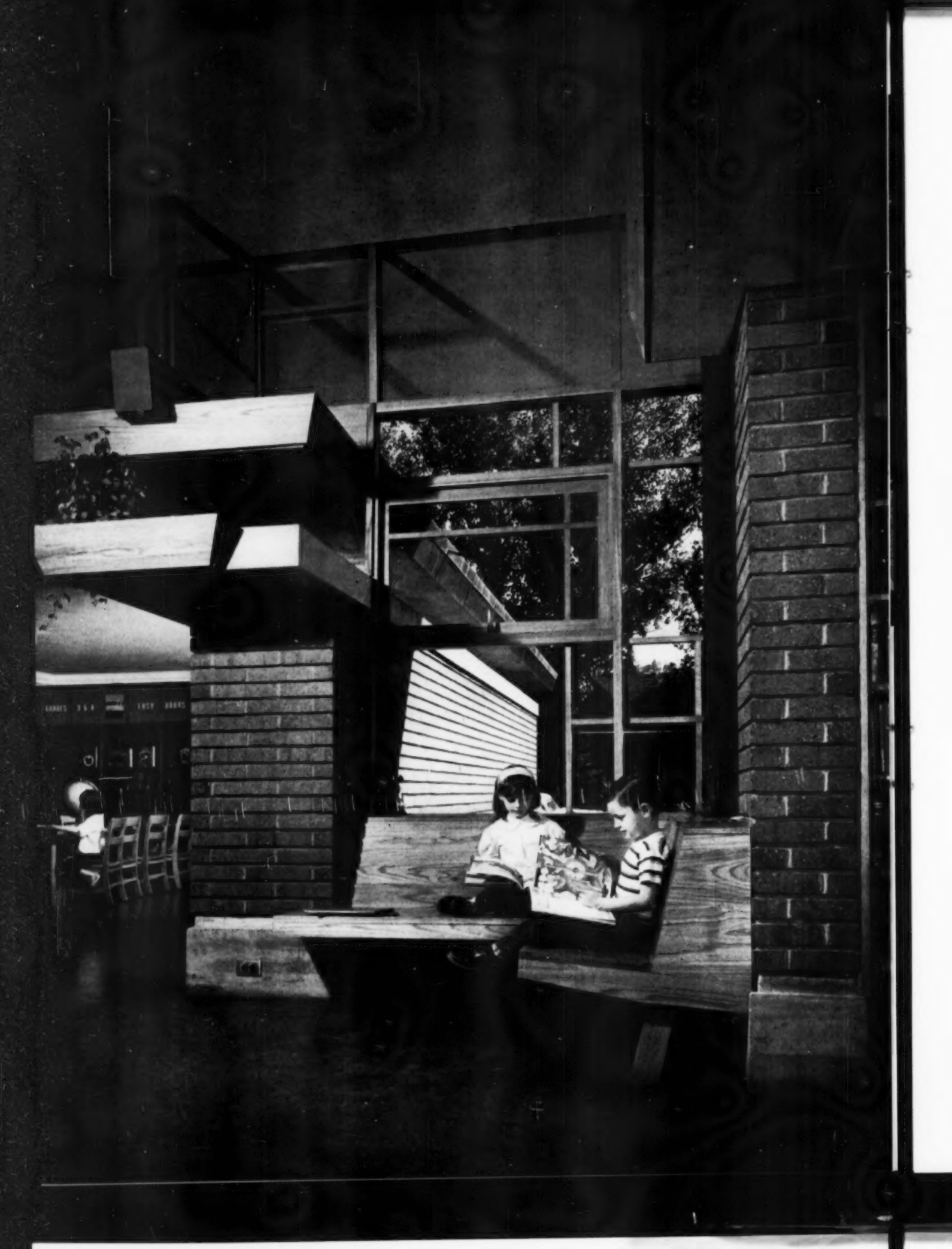
To improve the sound level, ceilings are of acoustical plaster, while intense heat is tempered by wool-type batts embedded in the structure. The wood, awning-type windows are glazed with either ¼"-plate or colored glass. A combination of fluorescent-strip lighting, cove and stack lighting, and incandescent ceiling fixtures provides the artificial light. Heating derives from a hot-water panel system, using steel piping. The fuel is natural gas, and the system is automatically controlled.

Total cost, exclusive of land, fees, furniture, and books—$75,000.

In addition to the main and children's reading areas and attendant work spaces, the program required a room that could be closed off from the rest of the library to be used for a variety of community activities (west end of building), and a garage to house two bookmobiles.

Photos: Reynolds, Photography, Inc.





branch library

The interplay of solids and voids—quite apart from providing useful wall areas to receive bookshelves—forms an exciting design pattern, whether viewed where the mass materials create depth and a succession of planes (as in the reading corner, across page*), in the main reading room* (above and left)*, or in the community-use room* (below) *that may be closed off by a sliding partition and entered separately from the vestibule.*

new plant-layout procedure

The Peerless plant-layout procedure has made the old drafting-board system not only obsolete but also needlessly expensive. Many well-known mass-production plants are currently enjoying its cost-reducing and expediting advantages. Here's how the system works: (1) Make floor plans on special white-surfaced aluminum plates, precision-printed with a ¼″ grid (plates are butted together to represent any large area). Permanent plant features such as walls, bays, stairways, columns, and elevators are outlined with special gummed tapes or inked lines. (2) Scaled templates representing machine tools, conveyors, benches, aisles, etc., are then drafted in ink on either tracing paper or vellum. All necessary data is lettered within the outlines of the templates (drawn to the same ¼″ = 1′ —0″ of the plates). (3) Templates are drawn only once. When original is prepared, templates are reproduced in any quantity desired, on plastic or heavy card stock, with a photocopy printer. (4) Templates are cut out after photocopy reproduction. Zipatone patterns can be used, if desired, to key special floor areas, aisles, or templates. (5) After preliminary layout is planned, templates are placed in position on the plates (*see illustration*). (6) As layout progresses, high-contrast negative photocopies of each completed plate are quickly and easily made on a vacuum-bed printer. (7) Vellum positives are then made in the same way.

For conference or reference, the light and easily handled layout plates can be stored vertically or laid out on large tables. Designers can view the whole plant area at once for discussion. Handy reference books containing 8½″ x 11″ positive reproductions of 36″ x 48″ plates can be routed to executives or used for conferences at distant points. Peerless Photo Products, Inc., Shoreham, Long Island, N. Y.

air and temperature control

Gas-Fired Unit Heater: unit heater, available in seven new sizes, may be used with all types of natural, manufactured, or LP gas. Heat output ranges from 20,000 to 160,000 Btu per hour; fan diameters from 12″ to 20″. Finished in gray-green baked enamel, units are especially suited for store, lobby, studio, and small office installations. American Air Filter Co., Inc., 215 Central Ave., Louisville 8, Ky.

Thermostat-Controlled Air Diffuser: ceiling diffuser for air-conditioning systems serving zones with variable heat loads contains pneumatic motor, remotely-controlled by thermostat, which regulates movement of damper. Sleeve damper moves up and down without enlarging or constricting neck area; air quantity alone is changed. Connor Engineering Corp., Shelton Rock Rd., Danbury, Conn.

Downflow Furnace: new oil-downflow furnace, currently available in two sizes of 60,000 and 85,000 Btu per hour output, is designed for use in basementless houses. Blower and motor are rubber-cushioned to counteract vibration; unit is insulated with heat-holding and sound-absorbing material. Ductwork can be installed in concrete slab or in crawl space of basementless home. General Electric Co., 5 Lawrence St., Bloomfield, N. J.

Electric Draft Control: improved model of electric draft control is suitable for coal- and oil-fired heating plants in factories, office buildings, hospitals, hotels, and other commercial buildings. Construction of control with two damper openings makes possible longer "off" periods for stoker or burner since chimney makes most of its pull from boiler room air rather than from boiler itself at the point of peak heat. Fuel Reduction Corp., 220 N. Ada St., Chicago 7, Ill.

Industrial Fans: new line of industrial fans has added feature of sealed, lifetime-lubricated ball bearings in both fan and motor. Sizes: 24″ to 48″; ⅓ to ¾ hp motors. Same specifications as standard line of fans with exception of guarantee which is extended to 10 years. The Murray Co. of Texas, Inc., Ventilation Fan Div., 185 Harris St., N. W., Atlanta, Ga.

Schoolroom Heater: new central-heating and ventilating system incorporates principle of forced air gas heat. Preheated outside air mixes with room as it passes through heater. Outside air is drawn in by damper; heater draws room air back through side return-air inlet. Unit may be used with natural, manufactured, or LP gas, has capacity of 60,000 Btu input per hour. Motor is resiliently mounted and fully enclosed. Norman Products Co., 1150 Chesapeake Ave., Columbus 15, Ohio.

Type B Multizone Air Conditioners: new line of air conditioners provides cooling and heating from one unit to number of separate conditioned areas which have individual temperature control. Blow-through type units; equipment consists of filter, blower, heating coil, cooling coil, and multiple-zone mixing damper sections. Four models are designed to serve up to 12 to 16 zones and range in capacity from 7,500 to 18,000 cu ft per min. United States Air Conditioning Corp., 3300 Como Ave., S. E., Minneapolis 14, Minn.

construction

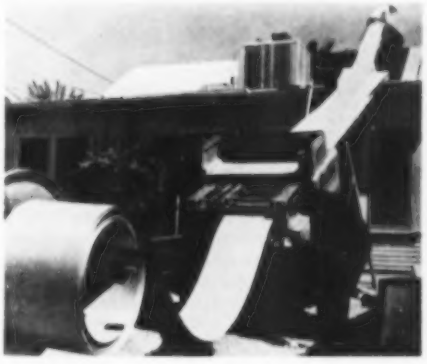
Spectra-Glaze: new type of glazed masonry unit is available in two glazings. Lightweight concrete blocks are manufactured, steam-cured, and air-dried by usual method. Acoustical glaze is a sprayed-on finish, retains rough texture of natural block. Tile face is cast directly to face of block in individual molds, has uniformly smooth surface. Ten soft-toned colors chosen for interior wall treatment are standard; other colors can be matched on special order. Burns and Russell Co., Tower Bldg., Baltimore, Md.

Fenestra Econorib: open-rib deck is 1½″ deep with full Z4 coverage in 18- or 20-gage NCB steel; formed with ½″ base, full last rib, and ¾″ rib opening, throughout. Decking is recommended on roof installations where high carrying capacity is not critical. It can be overlapped several feet and forced into place, eliminating need for cutting on last runs of jobs. Detroit Steel Products Co., 2250 E. Grand Blvd., Detroit 11, Mich.

Concrete Anchor Studs: special concrete anchor studs are designed to simplify fabrication and improve quality of steel curb angles, trench frames, column guards, joists, and other structural members to be anchored in concrete or masonry. Cold-drawn steel with tensile strength of 75,000-85,000 psi is used in fluxed anchor studs which are welded in angle or on faces of steel members without causing distortion. Nelson Stud Welding Div., Gregory Industries, Inc., 2727 E. 28 St., Lorain, Ohio.

Versabar: structural steel channel, made of cold-rolled carbon steel, may be used to form racks, concrete inserts, pipe supports and clamps, mountings for fluorescent fixtures, and conduit supports. Four basic sizes available, furnished in different combinations. Standard finishes: plain, green enamel, or galvanized. No welding or drilling required. M-H Standard Co., Versabar Div., 515 Communipaw Ave., Jersey City 4, N. J.

eave-to-eave aluminum roofing



Low-cost aluminum roofs can now be installed on new construction, or as replacements on old defective roofs, by means of a new, patented, portable, metal-processing machine. The machine is brought alongside the building and tilted at an angle approximating the pitch of the roof and a guide track is adjusted between machine and roof. After a 30-lb overlapping felt base has been laid, the Roliton aluminum roof can be applied. Two coils of aluminum are fed into the machine, with one forming a 16-in. wide panel and one a batten which covers the seams between panels. These continuous strips are laid from eave to eave and nailed to the deck by aluminum clips. Following this, all vents, valleys, chimneys, cooling equipment ducts, dormers, and parapet walls are flashed in aluminum. This type of construction allows for expansion and contraction and also permits the escape of water vapor. For added strength and rigidity, serrations or "ribs" are formed into the aluminum which run continuously along the length of the panels. A crew of two men can install a Roliton batten-seam aluminum roof on the average new house in 16 man hours. Seams, end laps, and exposed nailing are eliminated in this type of roof. Roliton of America, Inc., 714 E. Van Buren Street, Phoenix, Ariz.

doors and windows

Series 300 Panels: new flat, extra-rigid panel has been designed for shower doors and enclosures. Made by combining resins and glass fibers under heat and pressure, panels are shatterproof, fire-resistant, and unaffected by heat or cold. Stock sizes: 32" x 60" and 24" x 66"; weight: approximately 11 oz per sq ft; thickness: .09"; five pastel colors. Alsynite Co. of America, 4654 De Soto St., San Diego, Calif.

Tee-Cor Doors: new line of exterior and interior hollow-core flush doors has field of truss blocks arranged in all-over "T" pattern throughout core between veneer facings. Exterior door with 3/16" face veneer is constructed of stile and rail assembly with wide top and bottom rails and 3 ft lock block, utilizes waterproof resorcinal glue. Interior door is made of wood-fiber blocks with urea coating on inside surfaces. Morgan Co., Oshkosh, Wisc.

Residential Door Locks: new line of key-in-knob, push-button tubular locks consisting of three preassembled units: outside assembly containing extra-heavy bridge girders and triplex spindle; latch assembly with steel latch case; and inside knob assembly with push-button unit. Locks are available in solid brass in bright finish and solid aluminum in anodized finish. New line contains locks for all normal residential requirements. The Yale and Towne Mfg. Co., 200 Henry St., Stamford, Conn.

electrical equipment, lighting

Series "20/20" Fixtures: new line of fluorescent fixtures are available with metal or plastic side panels with baked-enamel louver fins. Fins provide 35-25, 35-45, or 45-45 degree shielding and are interchangeable in one 8 ft channel. Series incorporates 2- and 4-light 4-ft units, as well as 4-ft and 8-ft slimline and 8-ft bi-pin fixtures. Electro Silv-A-King Corp., 2000 W. Fulton St., Chicago, Ill.

Mercury Lamp: new 700-watt mercury lamp, giving 35,000 lumens initially, is designed for street, flood, and general lighting applications which demand intermediate size mercury lamp. Recommended minimum mounting height is 24 ft; average rated life is 4000-hours. Lamp may be operated from 460-volt circuits. Westinghouse Electric Corp., Lamp Div., MacArthur Ave., Bloomfield, N. J.

finishers and protectors

Ultra Flat Latex Paint: in coating walls boards used in dry wall construction, new flat latex paint serves as primer, finish, and joint seal with one-coat application. Sprayed, brushed, or rolled on, it will dry in approximately one-half hour. Finish is available in white and 10 colors, in one- and five-gallon containers. The Glidden Co., 2020 W. 110 St., Cleveland, Ohio.

insulation (thermal, acoustical)

Kaylo Heat Insulations: hydrous calcium silicate pipe and block insulation for industrial equipment is effective to temperatures of 1200 F. Compressive strength: 150 lb per sq in.; weight: 11 lb per cu ft. Material may be cut, scored, or sawed with conventional tools. Produced in thicknesses and diameters for pipe sizes from ½" to 23". Owens-Corning Fiberglas Corp., Nicholas Bldg., Toledo 1, Ohio.

Insuliner Sleeves: split-fiber tubes for insulation of electrical conduit connections are slipped by hand inside standard conduit bushings. Wires or cables are pulled through conduit and bushing in standard manner, then insulation is snapped into place. Sleeve presents smooth, rounded insulating surface separating conductors from raceway and presses outward against inner diameter of conduit for maximum clearance. The Thomas & Betts Co., 2838 Butler St., Elizabeth, N. J.

sanitation, plumbing, water supply

Indirect Water Heater: new heater for commercial installations is made in eight sizes with Btu outputs of 140,000 to 1,600,000. Unit will deliver hot water at required temperature or two given temperatures. When second and higher temperature is required, water is recirculated through second heat exchanger that boosts water to required temperature. Bryan Steam Corp., Peru, Ind.

Sumo Type A Submersible: ⅓ hp electric submersible water well pump, designed to fulfill requirements of average domestic water supply system, is furnished as a package unit complete with heavy-duty waterproof electrical cable sealed into motor and motor control box with built-in overload protection and continuously-rated capacitor. All-bronze and stainless steel corrosion-resistant construction; motor water-filled and water-lubricated to eliminate sealing problems. Sumo Pumps, Inc., 375 Fairfield Ave., Stamford, Conn.

specialized equipment

Recessed Bathroom Scale: new bathroom scale, recessed in wall, swings down to floor when needed. Scale is attached to door of heavy pressed-steel cabinet. Self-compensating spring arrangement allows scale to swing down to floor and rest on rubber bumpers. Chrome-plated door. Conant Bros., Somerville, Mass.

p/a manufacturers' literature

★ *Editor's Note: Items starred are particularly noteworthy, due to immediate and widespread interest in their contents, to the conciseness and clarity with which information is presented, to announcement of a new, important product, or to some other factor which makes them especially valuable.*

air and temperature control

1-40. Herman Nelson Amervent, A.I.A. 30-D-1 (625), 8-p. bulletin describing cooling, heating, and ventilating unit specially designed for mild climate areas. Typical plan of unit and utility cabinet in school classroom, cross section details of three models, specifications, capacities, and dimensions. American Air Filter Co., Inc., Louisville, Ky.

1-41. Jenn-Air Power Exhausters, A.I.A. 30-D-1 (53-B), 6-p. folder giving information on centrifugal wall exhauster, axial and centrifugal roof exhausters, back-draft eliminators, and ring-type grills. Charts give hp, rpm, sound level, cfm, and dimensional data. Photos, cutaway drawings, recommended air changes for various spaces. Jenn-Air Products Co., Inc., Architects & Builders Bldg., Indianapolis 4, Ind.

1-42. Ray Oil Burners, 16-p. condensed catalog listing commercial and industrial oil and combination gas-oil burners. Features of automatic, semiautomatic, and manually-controlled rotary and steam turbine drive burners; commercial and domestic pressure atomizing types for oil, gas, or combination gas-oil. Hourly capacity ratings, specifications, photos. Ray Oil Burner Co., 1301 San Jose Ave., San Francisco 12, Calif.

★ **1-43. Titusville-Iron Fireman Boiler-Burner Unit,** A.I.A. 34-B-1 (B-3133), 14-p. brochure with descriptive details of new pressurized boiler-burner unit developed for high or low pressure heating, power or process steam. Discussion of various elements in burner system; output rating chart; cutaway drawing indicating basic components; charts of ratings, performance data, and dimensions. Titusville Iron Works Co., Titusville, Pa. and Iron Fireman Mfg. Co., 3170 W. 106 St., Cleveland 11, Ohio.

1-44. Heating Coils by Young, A.I.A. 30-C-4 (4533), 32-p. catalog containing construction data, selection and dimension information, and specifications for steam and hot-water coils. Piping, installation, and general engineering data with illustrations. Photos, drawings. Young Radiator Co., 709 S. Marquette St., Racine, Wisc.

construction

2-45. StoRack Multipurpose Steel Framing (MC535), 4-p. folder describing steel framing which can be used to frame, hang, support, and mount mechanical and electrical equipment, fluorescent lighting, pipe, cable, and tubing. Sizes and gages for 5 types of channels. Photos, drawings. American Steel and Iron Works, 58 and S. Lowe Ave., Chicago 21, Ill.

2-46. Canvas in Contemporary Architecture, A.I.A. 35-P-2, 4-p. folder illustrating the use of custom-designed canvas in solar heat control and other climate control problems. Data includes types of canvas, colors and patterns, durability, and mildew, water, and fire-resistant treatments. Photos, drawings. Canvas Awning Institute, Inc. and National Cotton Council, P. O. Box 18, Memphis, Tenn.

2-47. Asbestos Movable Walls, A.I.A. 35-H-6 (TR-109A), 20-p. current edition of catalog covering 3 types of asbestos partitions for office, school, industrial, hospital, and institutional installations. Elevation, wall facing, and construction details, isometrics of "W" and "S" type walls, specifications, color photos. Johns-Manville Corp., 22 E. 40 St., New York 16, N. Y.

2-48. Trusbeam, A.I.A. 19-B-3, 4-p. folder describing roof support system for commercial and industrial buildings consisting of factory-fabricated I-shaped girders constructed of welded laminated solid lumber. Two-p. chart gives safe loads in pounds per linear feet for various spans. Photos and drawings. McKeown Bros. Co., 5303 S. Keeler Ave., Chicago 32, Ill.

2-49. Stran-Steel Reference Manual, 14-p. booklet on light-gage steel framing material for houses, partitions, and other light loadbearing structures. Sections on its use in floor and wall construction, framing of door and window openings, roof framing, and industrial uses. Data on main members and attachments, lengths, properties, spans, specifications. Stran-Steel Corp., Detroit, Mich.

2-50. Armorply: Modern Material of Imagination, A.I.A. 19-F (1032-5011), 12-p. brochure illustrating interior and exterior uses of bonded metal-to-plywood sheets. Photos of various patterns, information on available sizes. Other photos, drawings. U. S. Plywood Corp., Weldwood Bldg., New York 18, N. Y.

★ **2-51. Recommended Building Code Requirements for Vermiculite Plastering, Acoustical Plastic, Fireproofing and Concrete,** (Fourth Edition), 16-p. booklet presenting recommendations covering requirements for vermiculite products based on standards of American Standards Assn., American Society for Testing Materials, and Vermiculite Institute. Details of vermiculite fireproofing and concrete roof decks and floors. Vermiculite Institute, 208 S. La Salle St., Chicago 4, Ill.

doors and windows

3-47. The New Overline Door, A.I.A. 16-A, 4-p. folder on hollow steel doors with narrow stiles for entrances and office interiors. Door designs, specifications, sectional drawing, hardware recommendations. Overly Mfg. Co., Greensburg, Pa.

3-48. Wilson Doors, 24-p. catalog covering line of doors including rolling steel, Underwriters' steel, section-fold overhead types; also rolling steel grills and shutters, midget slat rolling steel closures, and rolling wood partitions. Construction features, specifications, space requirements, typical installations. Photos and drawings. The J. G. Wilson Corp., 370 Lexington Ave., New York 17, N. Y.

electrical equipment, lighting

4-30. Buchanan Electrical Fittings (53), 16-p. catalog describing line of solderless wire connectors, molded terminal blocks, insulated conduit bushings, and snap-action plugs. Specifications, dimensional data, application instructions, ordering information. Drawings and charts. Buchanan Electrical Products Corp., Hillside, N. J.

★ **4-31. Curtis Light and Sound Conditioning System,** A.I.A. 31-F and 39-B (2418), 20-p. brochure describing complete ceiling installations with vertical panels of acoustical material positioned between fluorescent lamps which are supplied wired with ballasts and lampholders. Illumination and acoustical data, construction and installation details, typical layouts using basic sections. Photos, drawings, charts. Curtis Lighting, Inc., 6135 W. 65 St., Chicago 38, Ill.

4-32. Fiberduct Data Manual, A.I.A. 31-C-62 (18-142 UF), 48-p. booklet giving detailed data on underfloor distribution system with impregnated fiber ducts for wiring of commercial, industrial, and institutional buildings. General information, individual equipment descriptions, specifications, installation notes. Dimensional drawings and installation photos. General Electric Co., Construction Materials Div., Bridgeport 2, Conn.

insulation (thermal, acoustic)

6-16. Armstrong's Insulcolor (11-43-253), 4-p. folder showing indoor and outdoor applications of plastic coating which combines insulation finish and color identification of various pipe lines in one application. Coating may be used over 85% magnesia pipe covering, asphaltic finishes, asbestos cement, and duct insulation. General data, color chart. Armstrong Cork Co., Building Materials Div., Lancaster, Pa.

6-17. Fiberglas Products (G53-1), folio containing data sheets on various glass fiber products for school buildings: roof insulation, perimeter insulation, blowing wool insulation, air filters, acoustical tile, ceiling board, translucent structural panels, light diffusors, duct insulations, stage curtains, and draperies. Advantages, product data. Owens-

Corning Fiberglas Corp., Nicholas Bldg., Toledo 1, Ohio.

sanitation, water supply, plumbing

7-12. The New Design Heat Exchanger (22), 8-p. bulletin describing hot water generator for intermittent and varying flows which has internal compensator for extreme variations in temperature and flow rates. Cutaway drawings, installation diagram, list of operating features, table of water capacities, method for determining size of generator needed, and specification table. Aerco Corp., Englewood, N. J.

7-13. Moen Mixing Faucets and Valves. A.I.A. 29-H-5, 4-p. folder illustrating line of single-handle mixing faucets and valves for kitchen sinks, lavatories and sinks, tubs, showers; also combination tub and shower valves. Construction data, illustrations of various models, drawings. Moen Valve Co., 6518 Ravenna Ave., Seattle, 5, Wash.

7-14. Fiat Precast Receptors, A.I.A. 35-H-6 (115), 12-p. catalog containing data on foundations for stall showers, one type for plaster walls or tile and one for slab-wall construction. Construction details, specifications, installation recommendations, drawings. Fiat Metal Mfg. Co., 21-33 Borden Ave., Long Island City 1, N. Y.

7-15. Taco Hot Water Heaters, Heat Exchangers. Hot Water Heating Specialties, A.I.A. 29-D-2 (H-99), 16-p. general catalog on line of heating specialties, including circulators, flow checks, fittings, control for panel heating systems, tankless water heater valves, external tankless heaters, and external storage heaters. Installation details and diagrams, average service water requirements for various types of buildings, photos, charts, and drawings. Taco Heaters, Inc., 137 South St., Providence 3, R. I.

7-16. Brule Model FG-4 Series, 6-p. bulletin describing line of industrial incinerators with capacities ranging from 400 to 4000 lb/hr. List of models includes information on capacities, grate areas, and dimensions. Photos of installations, discussion of main features. Goder Incinerator Corp., 407 S. Dearborn St., Chicago 5, Ill.

specialized equipment

8-26. Jensteel Bathroom Cabinets, A.I.A. 29-I (15B), 8-p. booklet giving information on seamless and welded types of bathroom cabinets, wall-hung cabinets, wall mirrors; also built-in mail boxes. Models, sizes, weights, drawings. Jensen Industries, 159 S. Anderson St., Los Angeles 33, Calif.

8-27. Jerrold Constant Level Master Antenna System (601), 4-p. folder on antenna system and its equipment for TV reception in hotels, motels, institutions, apartment buildings, and department stores. Diagram of system in multiple dwelling installation, photos and descriptions of equipment, charts. Jerrold Electronics Corp., 26 and Dickinson Sts., Philadelphia 46, Pa.

8-28. TeleNurse Saves Nurse Hours, 4-p. bulletin describing audio-visual nurses' call system. Photos and data of master communication unit, bedside calling stations, duty room stations, and corridor lights. Optional features, drawings. Stromberg Time Corp., 109 Lafayette St., New York 13, N. Y.

surfacing materials

9-13. Norton Abrasive Floors (1935), 12-p. booklet with detailed data on four types of abrasive floors: terrazzo aggregate, ceramic mosaic tile, cement floor aggregate, and stair and floor tile. Advantages, method of manufacture, specifications, photos of installations, colors and sizes. Norton Co., 1 New Bond St., Worcester 6, Mass.

9-14. Approved Maintenance Methods for Rubber Floors, A.I.A. 23-C, 12-p. bulletin containing recommended methods for cleaning and waxing rubber floors and list of approved cleaners and waxes. Products have been tested and found to be free from substances harmful to rubber flooring. The Rubber Manufacturers Assn., Inc., Rubber Flooring Manufacturers Div., 444 Madison Ave., New York 22, N. Y.

9-15. Vinylast, 4-p. folder listing outstanding characteristics of vinyl-plastic floor and wall tile; also static-conductive tile. Color chart, sizes, specifications, recommended maintenance methods, and photos of installations. Vinyl Plastics, Inc., Sheboygan, Wisc.

vertical traffic

10-2. Guilbert Alsteel Freight Elevator Doors, A.I.A. 33-G-4 (G2-2), 12-p. catalog giving information on steel bi-parting, telescoping, and single-section freight doors for use on elevators in industrial and commercial buildings. Also descriptions of steel dumbwaiter doors used on hatch entrances for dumbwaiters, trayveyors, subveyors, and other vertical conveyors. Layout data, specifications, hoistway construction requirements, cutaway diagrams. Guilbert, Inc., 1105 Frankford Ave., Philadelphia 25, Pa.

10-3. An Explanation of Otis Autotronic Elevatoring, A.I.A. 33-B (A-405), 16-p. booklet describing electronic system for automatic elevators in commercial buildings, with or without attendant operation. Six basic traffic programs, illustrations of six fully automatic programs in operation, photos, drawings. Otis Elevator Co., 260 11 Ave., New York 1, N. Y.

(To obtain literature, coupon must be used by 12/1/53.)

(We request students to send their inquiries directly to the manufacturers.)

PROGRESSIVE ARCHITECTURE, 330 West 42nd Street, New York 36, N. Y.
I should like a copy of each piece of Manufacturers' Literature circled below.

1-40	1-41	1-42	1-43	1-44	2-45	2-46	2-47
2-48	2-49	2-50	2-51	3-47	3-48	4-30	4-31
4-32	6-16	6-17	7-12	7-13	7-14	7-15	7-16
8-26	8-27	8-28	9-13	9-14	9-15	10-2	10-3

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10/53

G-J 100
Concealed Overhead Door Holder,
Stop, and Shock Absorber
Bill -
Don't overlook the importance of specifying the proper G-J Devices for the various doors, as their products are the proven standard.
P. E. S.
FB-13
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Builders' Hardware Specialties for Over 30 Years
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Refer to G-J Catalog for complete line of door holders, bumpers, and specialties . . . for all types of doors in public and commercial buildings.
4301

perlite idea

I know you are very busy, but if you do not read this column regularly how do you expect to be brilliant? Did you know that there is an idea in operation which, if broadened to other fields, would improve the quality of construction materials and make our lives a mite freer of daily difficulties? Listen to this: The Perlite Institute is pioneering a new idea in quality control for the plastering industry. The objective is to enable architects and engineers to specify a locally produced plaster aggregate of nationally certified quality, backed by a guarantee that it conforms to A.S.T.M. Specification. By establishing and publicizing a copyrighted *Certification Seal*, they have created a valuable new means of specification control. We can now specify "certified" perlite-plaster aggregate, building supply dealers can stock it, and plasterers can use it, all secure in the knowledge that they are handling an up-to-specification material. Good quality materials are the first requirement for good plaster. However, quality materials alone do not guarantee a satisfactory plaster job in every case. Other factors, such as structural movement, poor workmanship, or failure to protect plaster properly during setting and drying may result in defects for which the materials are not responsible. Therefore, to produce better workmanship, a certified aggregate should be specified and every precaution taken to assure that plastering procedure conforms to American Standards Association Specification A 42.1. The new seal features the insignia of both the Perlite Institute and the Pittsburgh Testing Laboratory. The guarantee on the seal is stated as follows: "Producer guarantees this Perlite manufactured in conformance to A.S.T.M. Specification C 35-52 T. Production regularly sampled and tested for conformance to above specification by Pittsburgh Testing Laboratory." Who is next?

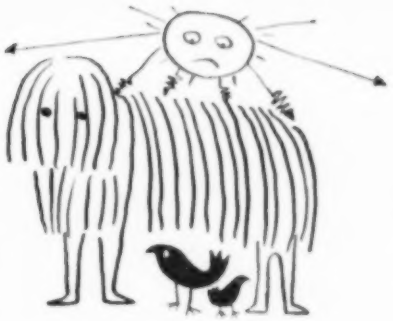
kost kwiz

How is your sense of values? Without taking your eyes off this paper, which is generally more costly:

1. Hi-Early or white Portland cement?
2. Clear plain red oak flooring (25/32″ x 2¼″) or clear plain white oak flooring (same size)?
3. Standard gray limestone or standard buff limestone?
4. Smooth hollow clay tile (terra cotta) or scored hollow clay tile?
5. Cement mortar mixed 1 to 2½ or 1 to 2?

If you are not subject to migraine headaches stand on your head and read the answers at the end of the column.

1. White Portland; 2. Clear plain red oak; 3. Standard buff limestone; 4. Smooth; 5. 1 to 2.



packaged air

With the increasing varieties of glass-fiber insulations coming upon the construction scene, I think it is high time I gave you the benefit of some recently accumulated data (gathered on the boss' time—please send checks to me at your earliest convenience). Of necessity, I must use trade and manufacturers' names, so if you manufacturers will please leave the room I can have a word with my professional friends without you leering at me. There appear to be two groups of glass-fiber insulations, the "short fiber" type and the "long fiber" type. In the "short fiber" group we have "Microlite" (Glass Fiber Inc.), "Ultrafine" (Gustin-Bacon Manufacturing Co.), "Superfine" (Libbey-Owens-Ford Glass Co.), "Aerocor" (Owens-Corning Fiberglas Corp.), and "Superfine" (Pittsburgh Plate Glass Company)—not to be confused with that other company's "Superfine." In general, nearly all of the above materials are made under the same license. They have pure glass fibers processed by blowing, .00012″ in diameter (one marble produces 42 to 97 miles of fiber) and approximately 4″ to 5″ long. They use phenolic resin binder (smokes at 450 F); have expanded thicknesses of ½″, ¾″, 1″, and 1¾″; and are of ½, ¾, 1, and 1½ pound densities (weight of fibers per cubic foot). Used for thermal and acoustical insulation, they list at from 3¢ to 9½¢, per square foot depending upon thickness and density. At additional cost these materials are available with a variety of facings whose function is to protect, bar vapors, keep insulation clean, and improve appearance. These facings are factory applied and generally consist of aluminum foil (from .0007″ to .0025″ thick, reflective, vapor barrier, noninflammable), reinforced kraft paper (less costly than aluminum foil, vapor barrier, inflammable, paintable), reinforced asbestos paper (no vapor barrier, noninflammable, paintable), aluminum-pigmented vinyl film (varying thicknesses, vapor barrier, noninflammable, available in colors), neoprene-latex-impregnated muslin (no vapor barrier, noninflammable, sound absorbing facing, paintable), vinyl-film spray directly on insulation (no vapor barrier, prevents fibers from flaking off). Still awake? Now for the "long fiber" type. The answer is quick and painless. It is the same as the "short fiber" type, with the exception that "Ultralite" (Gustin-Bacon) is a drawn fiber which, after drawing, is "garnetted" (a weaving technique), has fiber length of 5″ to 7″, has 30% less resin (because of the process involved), runs from ½″ to 6″ thick in ½″ multiples. In densities of ¾, 1, 1½, 2, and 3—it seems to have more bounce to the ounce. I don't, so I'd better stop now.

bitter sweets

What the heck has happened to the Sweet's Catalog File index anyway? I can remember in the not-too-distant past when there was absolutely no difficulty in finding one's way around the catalogs. In the current editions I waste time and grow increasingly irritable in the pursuit of data because of the awkward indexing system. I hope sincerely Sweet's will be somewhat sweeter to us specifiers in the subsequent series.

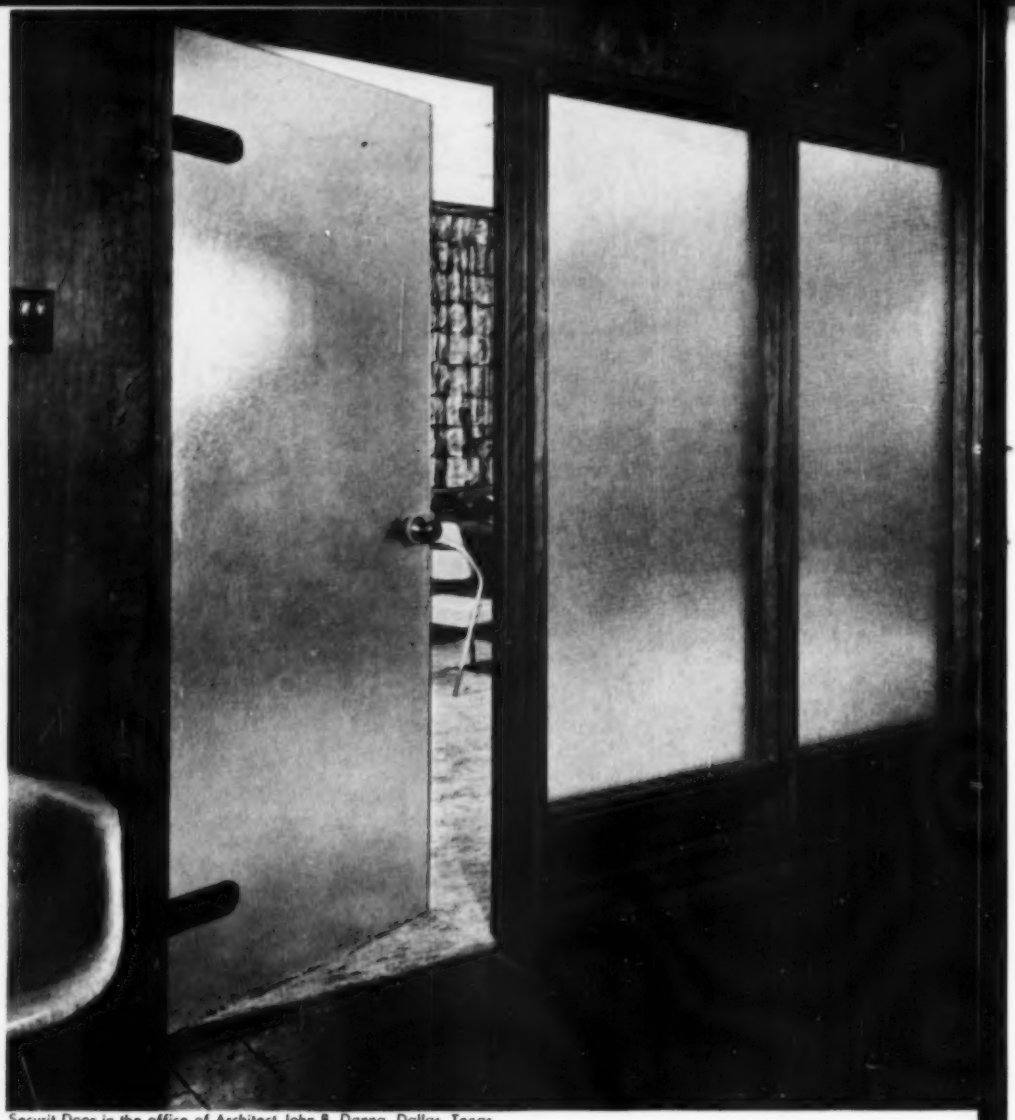
sreenev

What am I talking about when I use the following terms: avodire, bubinga, ceiba, emeri, gonzalo alves, imbuya, iroko, kelobra, kewazinga, ohia, sapeli, sinora, sucupiro, okoume, quilt, mansonia, maidou. "Sreenev" spelled backwards, is veneers—which is the answer.

taking the cure

White, reflective, curing paper for cement-concrete highways works on an insulated-cure principle which maintains a low temperature range in green concrete during the first 24 hours. Tests by Research Division of the Virginia State Highway Department show that waterproof paper is a superior method for retaining moisture in fresh concrete. The paper was tested on U.S. 30, Whiteside County, Illinois. Temperature readings over a 24-hour period showed that surface temperature of the concrete under the paper had a range of only 24°. Under regular tan-colored, reinforced paper the range was 37°. The free air temperature range was 42°. This temperature-control feature reduces greatly the tendency toward preliminary cracking and checking and the high-moisture-retention feature of the paper cure insures dense, uniform concrete throughout the slab. "Sisalkraft" White Reflective Curing Paper consists of one sheet of white, bleached kraft and one sheet of regular, tan kraft laminated with asphalt and heavily reinforced in both directions. The kraft is pretreated with a chemical which gives it high wet strength and resistance to shrinkage—a good thing to know when you are taking the cure.

WHAT A BEAUTIFUL WAY TO BE DIFFERENT!



Securit Door in the office of Architect John B. Danna, Dallas, Texas.

. . . a door of translucent patterned glass

This door decorates with light—and does a grand job of it. Everyone who sees the Blue Ridge *Securit** Interior Glass Door remarks on its contribution to the appeal of the room. They ask questions, of course, such as:

"*Is it rugged?*". . . The glass is heat tempered, so it can stand hard usage.

"*Is it as expensive as it looks?*". . . Not by a long shot—its cost compares favorably with high-quality doors of common materials.

"*What about installation?*" . . . It's simple, quick and money-saving. There's no cutting or mortising on this door. Beautiful, easily applied hardware and hinges come to the job with the door. When specified, the door can be shipped with a Sargent closer or prepared for use with an LCN concealed closer.

See your L·O·F Glass Distributor or Dealer about this newest thing in doors. He's listed in the yellow pages of phone books in many principal cities. Or mail the coupon. *®

BRIEF DATA

Glass—⅜" thick. Muralex pattern on both surfaces.

Tempered—3 to 5 times stronger than untempered glass of same thickness.

Reversible—can be used right or left hand.

Standard Sizes—2'6" x 6'8" 3'0" x 6'8"
2'8" x 6'8" 3'0" x 7'0"

—also 4 sizes for openings of these dimensions with proper allowance for clearances.

Libbey·Owens·Ford Glass Company
Patterned & Wire Glass Sales
B-22103 Nicholas Building, Toledo 3, Ohio

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securit® L·O·F GLASS

INTERIOR GLASS DOORS

Page Beauchamp: health facilities waiting rooms

All of the selections this month have one most desirable quality—a complete lack of the institutional look. The interior designers felt that it was important to make these lobbies and waiting rooms as attractive as possible. Contributing to the successful results were many factors—furniture design, scale and arrangement, colors and textures. So often, people using hospital lobbies or waiting rooms of medical centers are apt to be uncomfortable and ill-at-ease while awaiting medical examination. Anyone who has to sit on a straight, hard bench and stare at white walls is bound to concentrate on what he is about to face—whereas comfortable, pleasant surroundings will help to relax him and divert his attention.

The furniture and furnishings in these examples are all fairly small scale and arranged more in the manner of a living room than a waiting room. Particularly praiseworthy is the attractiveness of design achieved through color and texture, but still with strict attention to ease of maintenance. Serviceability is one of the most important considerations in a hospital, but it need not ignore beauty, even if budget is also a problem. Color is one of the least expensive of design elements: it is all a matter of emphasis. If the problem is approached with comfort and pleasantness in mind, as the desired result, all of the practical aspects may fall in line without harming the design. But if emphasis is placed on practicality alone, ignoring all of the attractive elements, the institutional look will surely take over. This is the interior designer's potentially great field. Hospitals are just beginning to awake to the therapeutic value of color and beauty. It is not likely, however, that one trained in hospital management could achieve the proper balance in design, nor is it expected. The ideal working arrangement is when a consultant medical man works with the interior designer. Following are some handsome examples of interior design—a really encouraging collection, a tribute to the necessary contribution of design thinking to the medical needs.

p/a interior design data

waiting rooms

This lobby was designed with the consciousness that it is always on view—either by visitors or through the glass wall facing Fifth Avenue and Central Park. Therefore, the lines were kept clean and uncluttered. The furniture has also been scaled to modify the effect of the overwhelming glass wall and the large columns, and also arranged in an informal open plan. The drapery fabric helps to soften the room, and yet does not interfere with the clean lines. *Photo: Ben Schnall*

data

cabinetwork

Cabinetwork: Sloane & Moller Woodworking Company, Inc., 87-28 130 St., Richmond Hill, N. Y.

Hardware: Sargent & Company, New Haven, Conn.

doors and windows

Revolving Doors and Windows: General Bronze Corporation, Stewart Ave., Garden City, L. I., N. Y.

Glass: Pittsburgh Plate Glass Co., 632 Duquesne Way, Pittsburgh, Pa.

equipment

Heating and Ventilating Grills: Tuttle & Bailey, Inc., New Britain, Conn.

furnishings and fabrics

Sofas: #U190/ special 12' length/ upholstery, textured hand-weave/ Jens Risom Design Inc., 49 E. 53 St., New York, N. Y.

Lounge Chairs: #U390/ upholstery, textured hand-weave/ Jens Risom Design Inc.

Wing Chair: #U415/ open arm, high back/ natural leather upholstery/ special design/ Jens Risom Design Inc.

Arm Chair: #C120/ birch frame/ natural leather upholstery/ Jens Risom Design Inc.

Tables, Plant Boxes: custom design/ executed by Jens Risom Design Inc.

Drapery: #50504/ natural and white hemp with metallic thread/ Creative Looms Inc., 210 E. 51 St., New York, N. Y.

lighting

Table Lamps: custom design/ ceramic/ Berrier-Gnazzo, 206 E. 49 St., New York, N. Y.

Ceiling Fixtures: custom design/ executed by McPhilben Mfg. Co., Inc., 1329 Willoughby Ave., Brooklyn, N. Y.

walls, ceiling, flooring

Walls: painted plaster/ brick

Ceiling: acoustic tile/ Jacobson & Co., Inc., 227 E. 44 St., New York, N. Y.

Flooring: terrazzo/ V. Foscato Inc., 22-02 40th Ave., Long Island City, N. Y.

location | The Mount Sinai Maternity Pavilion, New York, New York

interior designers | Maurice and Joseph Mogulescu & G. Luss: Designs for Business, Inc.

architects | Kahn & Jacobs

location	Sinai Hospital, Detroit, Michigan
furnishings consultants	Maurice and Joseph Mogulescu & G. Luss: Designs for Business, Inc.
architects	Albert Kahn Associated Architects and Engineers
consultant	Dr. Jacob J. Golub

data

equipment

Registers and Ceiling Outlets: Tuttle & Bailey, Inc., 1706 Corbin Ave., New Britain, Conn.

Temperature Controls: Minneapolis-Honeywell Regulator Co., 2753 Fourth Ave., S., Minneapolis 8, Minn.

Heating Convectors: The Trane Company, 2020 Cameron Ave., La Crosse, Wis.

furnishings and fabrics

Sofa: #5015/ walnut, brass leggings/ Lehigh Furniture Corp., 16 E. 53 St., New York, N. Y.

Upholstery: #K/529/ Scotch linen/ Knoll Fabrics, Inc., 575 Madison Ave., New York, N. Y.

Lounge Chair: #4030/ walnut, brass leggings/ Lehigh Furniture Corp.

Upholstery: #K/534/ Scotch linen/ Knoll Fabrics, Inc.

Open-arm Lounge Chair: #2020/ walnut, brass leggings/ Lehigh Furniture Corp.

Upholstery: #GLO-1362/ natural leather/ Gilford Leather Co., Inc., 515 Madison Ave., New York, N. Y.

Tables: walnut/ tops, white travertine/ brass leggings/ Lehigh Furniture Corp.

Plant Box: walnut/ Esra Blank Associates, Brooklyn, N. Y.

lighting

Hanging Lamps: #A1955, #A1957/ brass/ Finnish American Trading Corp., 41 E. 50 St., New York, N. Y.

Recessed Fluorescent Fixtures: The Miller Company, 99 Center St., Meriden, Conn.

walls, ceiling, flooring

Walls: walnut paneling/ Roddis Plywood Corp., Marshfield, Wis.

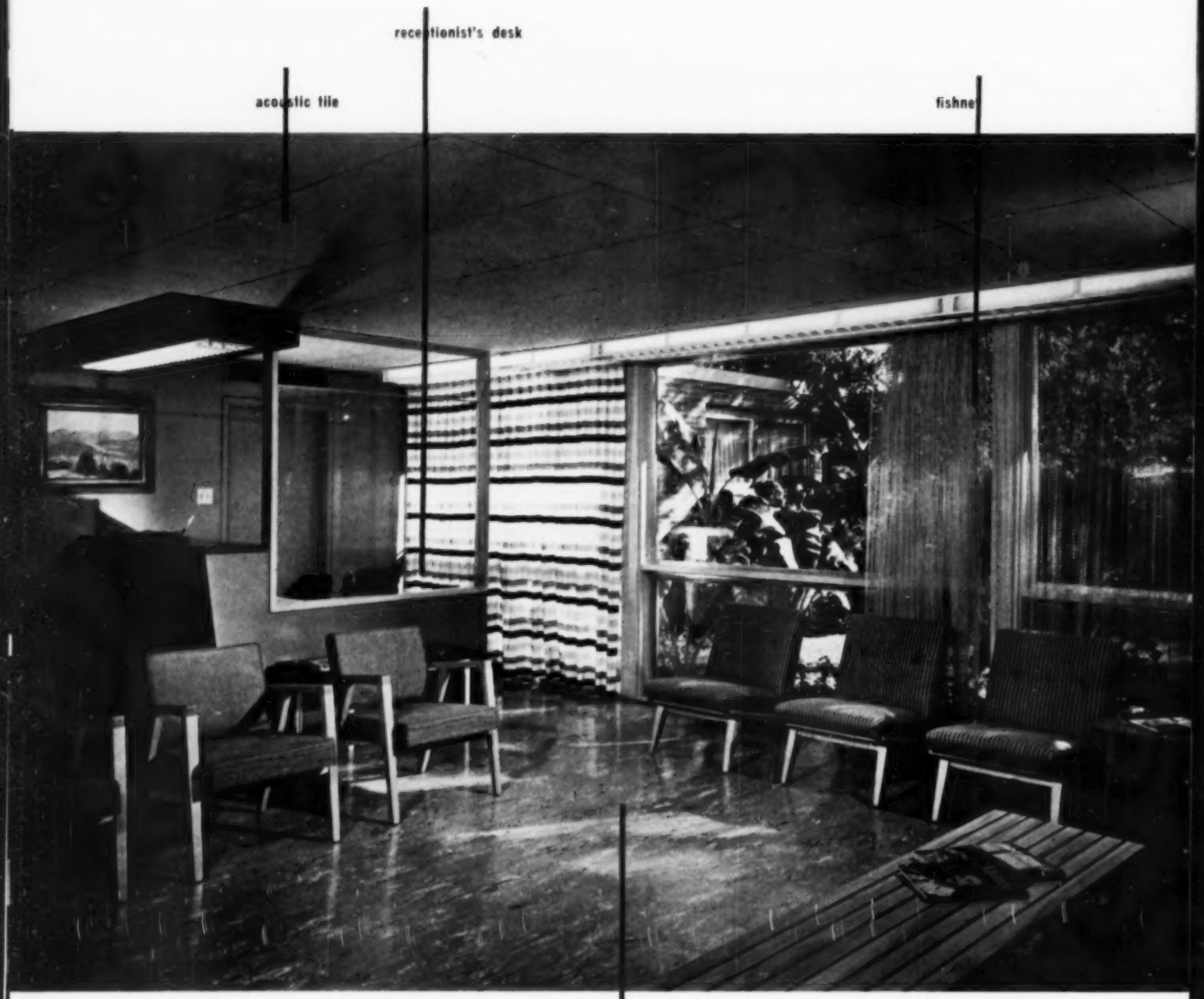
Ceiling: "Travacoustic"/ acoustic tile/ National Gypsum Co., Inc., Burley Bldg., 325 Delaware Ave., Buffalo, N. Y.

Flooring: terrazzo—red Levanto, red Vermont, Botticino, Tennessee pink

It is difficult to believe that this lobby is in a hospital: it could as easily be in a hotel. Several very important elements eliminate all traces of institutionality. The colors are all warm earth tones—natural leather, gold-and-rust colored linens, dark natural-walnut walls, and dark brown carpets on the light terrazzo floor. The texture of the carpeting softens the terrazzo surface. Furniture is scaled down to lend intimacy, and the arrangement is informal—more like that of a living room. The growing plants add the final touch.

Photo: Benyas Kaufman

waiting rooms



location	Kreisle Clinic, Austin, Texas
architects-interior designers	Fehr & Granger

receptionist's desk

Designed to accommodate as many as 20 patients, this waiting room serves three doctors' offices. The interior designers based their entire approach on the premise that waiting for a medical examination is usually not too happy an experience and that the interior should do as much as possible to dispel this depression through pleasant, cheerful, and colorful surroundings. The west wall, of glass, permits cross ventilation and also affords a view of the out-of-doors, which helps even more to cheer the waiting patients.

Photos: Ulrich Meisel

data

cabinetwork

Receptionist's Desk: designed by Fehr & Granger/ executed by Calcasieu Lumber Company, Austin, Tex.

Hardware: Sargent & Company, New Haven, Conn.

doors and windows

Doors: flush type, birch/ United States Plywood Corporation; The Mengel Company, 1215 S. Seventh St., Louisville, Ky.

Hardware: 4500 Series/ aluminated aluminum/ Sargent & Company

Windows: glass/ Libbey-Owens-Ford Glass Co., Nicholas Bldg., Toledo 3, Ohio

aluminum sash/ "Alumar"/ R. H. Folmar Co., Austin, Tex.

equipment

Heating and Air-Conditioning Outlets: Barber-Coleman Company, 150 Loomis, Rockford, Ill.

furnishings and fabrics

Sofas: #23/ birch natural finish/ 73½" x 29½" high/ upholstery, 13 yds. K527 green and light green linen/ Knoll Associates, 575 Madison Ave., New York, N. Y.

Chairs: #21/ birch natural finish/ upholstery, 7½ yds. K532 olive green/ yellow plaid linen/ Knoll Associates

Armchairs: #652U/ birch natural finish/ upholstery, 4 yds. K510/7 black transportation cloth/ #49/ birch natural finish/ upholstery, 7½ yds. K529 red, yellow, green linen/ Knoll Associates

Birch Laminated Base Chair: #72ULB/ upholstery, 1½ yds. K529 red, yellow, green linen/ Knoll Associates

Black Steel Base Chair: #72USB/ upholstery, 1½ yds. K510/9 black transportation cloth/ Knoll Associates

Tables: #NK5, NK6, NK7, NK8/ European elm top/ birch base/ Knoll Associates

Table: #115/ dark-gray slate top/ white "T" iron base/ Knoll Associates

Bench: #400/ ash slats, black-steel base/ Knoll Associates

Curtains: #K282 Fishnet, #K11 yellow, charcoal, and gray stripe/ Knoll Associates

Curtain Hardware: Kirsch Company, Sturgis, Mich.

lighting

Fluorescent Strip: #97200-26/ Daybrite Lighting Corp., 5434 Bulwer Ave., St. Louis, Mo.

Brackets: #603A/ Gotham Lighting Corp., 37-01 31 St., Long Island City, N. Y.

Light at Receptionist's Desk: #67200-6/ Daybrite Lighting Corp.

walls, ceiling, flooring

South Wall: "Mission Colonial" brick/ Valley Brick & Tile Co., Mission, Texas

North and West Walls: United States Plywood Corporation; The Mengel Company

East Wall: plate glass/ Libbey-Owens-Ford Glass Co.

Ceiling: 24" square "Cushion Tone"/ Armstrong Cork Co., Lancaster, Pa.

Flooring: light-gray rubber tile/ Robbins Rubber Co., Tuscumbia, Ala.

waiting rooms

Fortunately, the site of this building permits a view of a park from the waiting room. The designers, with the use of primary colors and a "Fishmobile," have achieved an atmosphere somewhat like that of a playroom, to divert the children awaiting examination. The room was planned to operate with a minimum staff, beyond the required nurses and receptionists, so that it is efficient as well as attractive. Fabrics and finishes were selected to be as children-proof as possible.

Photos: Ulrich Meisel

limestone

acoustic tile

quarry tile

data

cabinetwork

Receptionist's Desk: designed by Fehr & Granger/ executed by Calcasieu Lumber Company, Austin, Tex.

Hardware: Sargent & Company, New Haven, Conn.

doors and windows

Doors: flush type/ United States Plywood Corporation; The Mengel Company, 1215 S. Seventh St., Louisville, Ky.

Hardware: 4500 Series/ aluminated aluminum/ Sargent & Company.

Windows: glass/ Libbey-Owens-Ford Glass Co., Nicholas Bldg., Toledo 3, Ohio
ABC Aluminum Windows, Miami, Fla.

equipment

Heating and Air-Conditioning Outlets: Barber-Coleman Co., Rockford, Ill.

furnishings and fabrics

Chair: #72/ upholstery, red Saran/ Knoll Associates, Inc., 575 Madison Ave., New York, N. Y.

Loveseats: #22/ ordered in muslin/ slip-covered with linen/ Knoll Associates

Chairs: DCM/ 4 red, 4 black/ designed by Charles Eames/ Herman Miller Furniture Company, Zeeland, Mich.

Platform Bench: #4692/ birch and black lacquer/ Herman Miller Furniture Co.

Black Lacquer Tables: IT/ Herman Miller Furniture Co.

lighting

Wall Brackets: #6288/ Gotham Lighting Corp., 37-01 31 St., Long Island City, N. Y.

Receptionist's Desk Light: #46220 4/ Day-Brite Lighting Corp., 5434 Bulwer Ave., St. Louis, Mo.

Entrance Light: #88 6600/ "Prescolite"/ Presstool Co., Berkeley, Calif.

walls, ceiling, flooring

Walls: native limestone and natural-finish birch plywod

Ceiling: 12" square "Cushion Tile"/ Armstrong Cork Co., Lancaster, Pa.

Flooring: quarry tile/ Carlysle Mfg. Co., Ironton, Ohio/ "Kencote"/ Kentile, Inc., 58 Second Ave., Brooklyn, N. Y.

location | Children's Medical Center, Austin, Texas

architects-interior designers | Fehr & Granger

location	Pelican Valley Health Center, Pelican Rapids, Minnesota
architects	Thorshov & Cerny
color stylist	Jeanne Des Marais

data

cabinetwork

Bookshelf-Radiator Cover: birch hardwood/ designed by Thorshov & Cerny, Inc.

furnishings and fabrics

Armchair: Duran upholstery/ Selig, Inc., Leominster, Mass.

Hardware: #9005/ recessed drapery track/ Kirsch Company, 309 Prospect, Sturgis, Mich.

lighting

Ceiling Fixture: #801/ round recessed/ Corning Albolite lens/ Litecraft Mfg. Corp., 8 East 36 St., N. Y. 16, N. Y.

walls, ceiling, flooring

Walls: painted plaster; paint/ Devoe & Raynolds Co., Inc., 44 St. & First Ave., New York, N. Y./ tan brick/ Hanley Company, Summerville, Pa.

Ceiling: acoustic plaster/ "Gold Bond" National Gypsum Co., 325 Delaware Ave., Buffalo, N. Y.

Flooring: black, green, gray, terra cotta (to match Plate #112, National Terrazzo & Mosaic Catalogue)

windows

Windows: ¾" double-glazed Thermopane/ Libbey-Owens-Ford Glass Co., Nicholas Bldg., Toledo 3, Ohio

The successful interior design of this lobby may be credited to a number of people. First, the architects created wall, ceiling, and flooring areas that guaranteed easy maintenance—uncluttered planes in finishes that require little refreshing and are simple to clean. The custom-made bookcase, which also encloses the radiator, helps to further the smooth, orderly (but not institutional) look. The wall of glass adds a look of spaciousness.

The second contributor was the color stylist. All colors are soft and muted in value. The drapery fabric and terrazzo incorporate all of the colors—grayed chartreuse, terra cotta, gray, and green. The chairs are upholstered in a chartreuse plastic fabric, the terra cotta is repeated in the lettering, the walls are painted dark gray-green.

As often happens in community hospital projects, the decorating was done on a limited budget by a local women's committee. In all, the lobby is a well-integrated whole, combining cheerfulness and airiness with a cleanness of design. *Photo: Reynolds, Photography Inc.*

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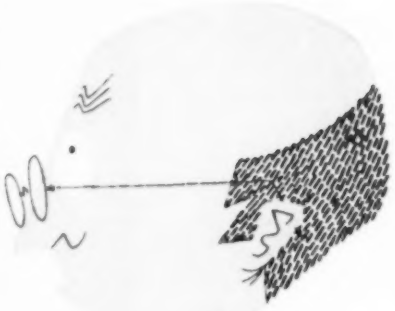

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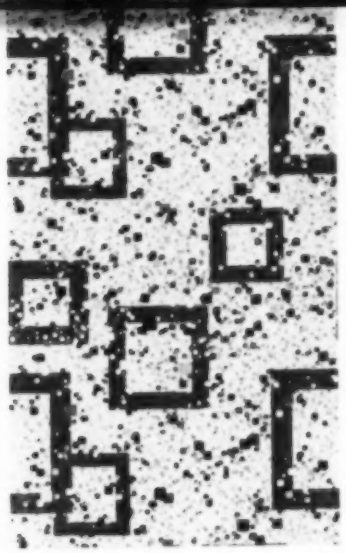
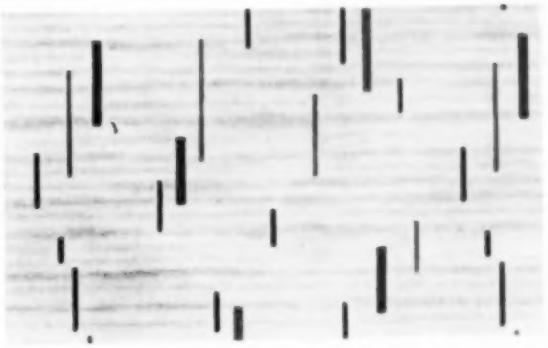
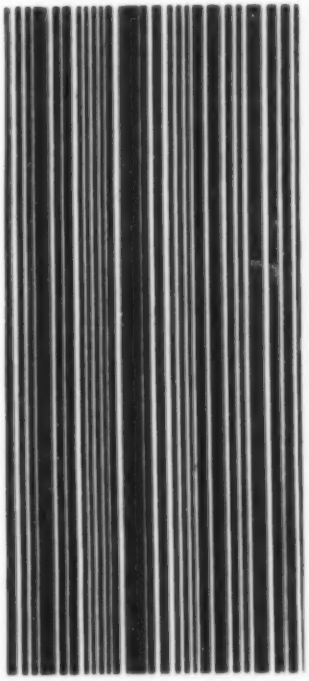


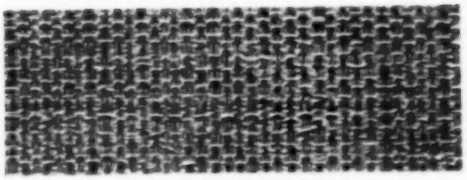
Gold Seal Congoleum (felt base): #888 Pebbletone red and #889 Pebbletone green/ floor covering, six-foot widths/ scattered color specks on hollow squares; **Gold Seal Congowall:** "Jackstraw"/ wall covering/ #W70 Elf gray; #W71 Sprite yellow; #W72 Pixie green/ **Congoleum-Nairn Inc., 195 Belgrove Drive, Kearney, N. J.**



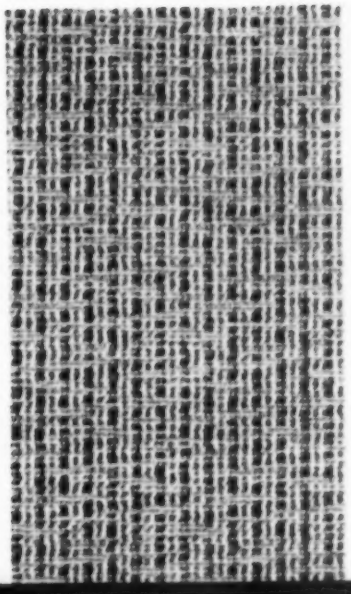
Wall Tile: "Panelrib"/ 9" squares/ polystyrene/ striated surface "surrogate" diamond back/ washable/ scratch and mar-proof/ withstands heat/ will not rust, warp, or swell/ may be installed on plywood, sheetrock, plaster board, or plastered walls/ **New Plastic Corporation, 1026 North Sycamore, Los Angeles 38, Calif.**



Upholstery: "Tolstron Straw"/ rayon-based plastic coated/ has appearance of woven straw/ available in 54" width/ easy to clean, long-wearing, resistant to stains, water, and oil/ natural straw, yellow, fern green, antique white, red, turquoise, and coral color/ **Textileather Corporation, Toledo, Ohio**



Carpet: "County Fair"/ all-loop texture/ tones of green, beige, cocoa, dawn gray, champagne, or red with accents of cinnamon, gold, gray, black or white/ may be cut without binding and joined almost invisibly because of "Lokweave" construction/ **retail:** $9.95 a square yard/ **The Bigelow-Sanford Carpet Co., 140 Madison Ave., New York 16, N. Y.**

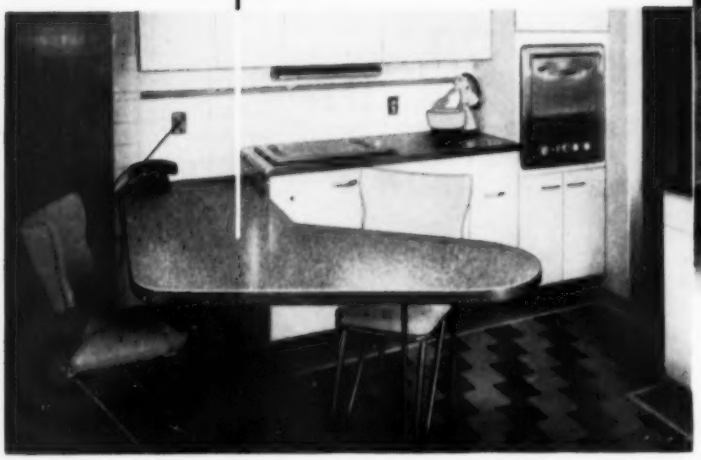


hotel lobby

Hollywood Plaza Hotel: Cigar stand and cashier's desk, surfaced in Parkwood Genuwood – Mahogany with Gray Harewood Feature Strip. Designer, Harry Werner. Fabricator, Liquid Carbonic Corp.

modern kitchen

Kitchen of house in Worcester, Mass. Styled by George Flynn. Parkwood Decorative work surfaces by Ryan Mfg. Co., Palmer, Mass.



bank teller's desk

Parkwood Genuwood work surfaces in teller's spaces, People's National Bank, West Seattle.

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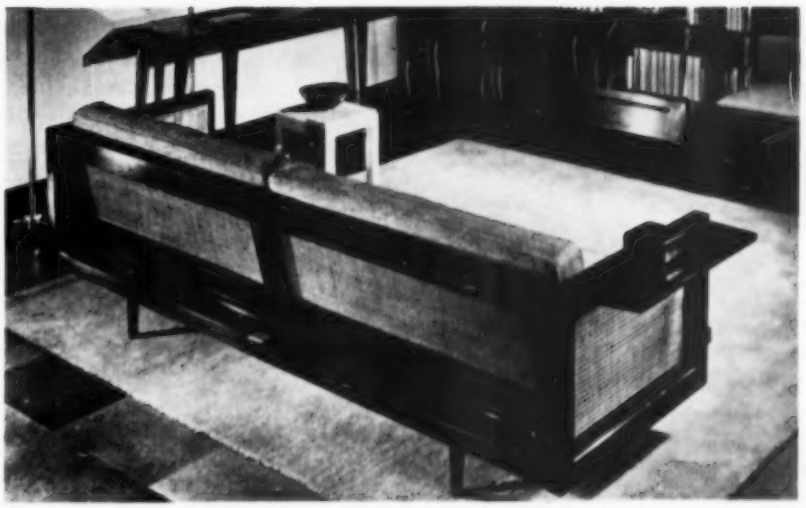
Table Lamp: #9992/ [illegible] glass, metal shades/ walnut legs/ 18¾" high/ one, two, or three bulbs may be lighted at one time/ **retail:** $29.50/ Lightolier, Inc., 11 E. 36 St., New York, N. Y.

Modern Sunburst Clock: #2202/ tapered wood shafts, available in walnut or birch/ white metal center/ black hands with accents of orange and gray/ 19" diameter/ designed by George Nelson/ **retail:** $25/ **Howard Miller Clock Co., Zeeland, Mich.**

Sofa Bed: #5327/ 96" long, 24" deep, 42½" wide, opened/ back drops to form bed/ foam rubber upholstery/ mahogany frame with cane back and arms, rosewood legs/ tablet arm eliminates need for end table/ designed by Edward Wormley/ **retail:** $730, in muslin/ **Dunbar Furniture Corp., Berne, Ind.**



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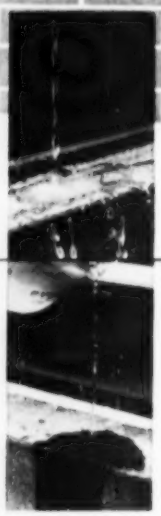
shed water, stay clean, and free from ugly efflorescence



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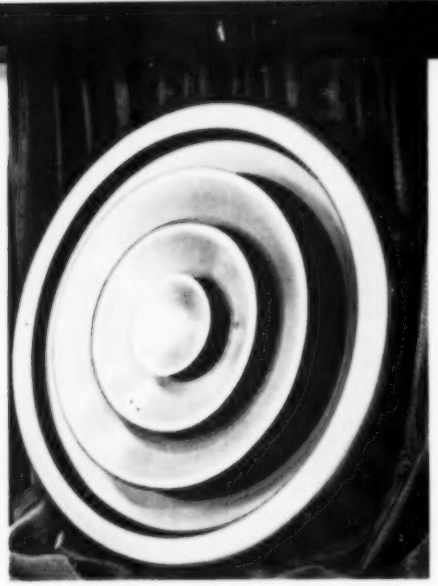
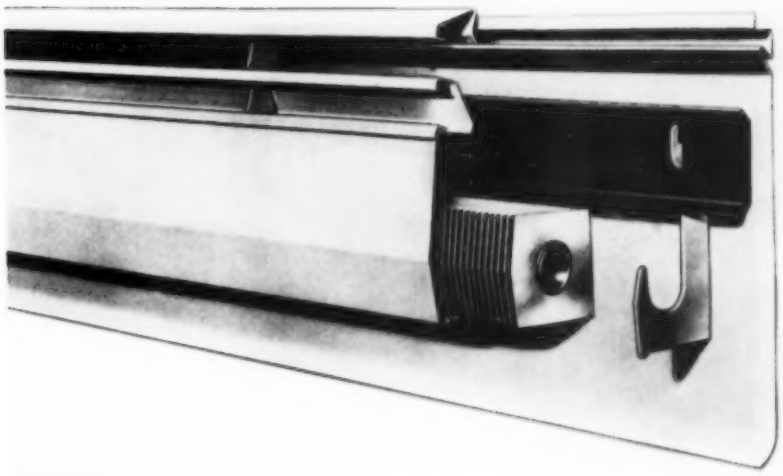


Air Diffuser: Type "P" Series/ "PA" adjustable, multipassage, air distribution may be varied from horizontal to vertical/ "PS" stepped-down type, fixed pattern diffuser/ "PF" flush type/ "PR" fixed pattern supply and return diffuser/ "PH" fixed pattern half round diffuser/ uniform appearance permits use of varying types within one area/ **Tuttle & Bailey, Inc., Corbin Ave., New Britain, Conn.**

Intercommunication System: #LC-33/ wireless, two-station requires no wired installations/ may be plugged in any electrical outlet/ suppresses line noises and hums/ more stations may be added/ finished in walnut or gray/ **Talk-A-Phone Co., 1512 S. Pulaski Rd., Chicago, Ill.**



Baseboard Heating Panels: #88 for recessed installation, #87 for freestanding installation/ available in 5 and 6 foot lengths/ one-piece front and back/ finished in prime coat, may be painted to match wall or trim/ styled by Walter Dorwin Teague/ **Tuttle & Bailey, Inc., Corbin Ave., New Britain, Conn.**

Food Waste Disposer: #69100/ easily installed/ features quiet, fast operation disposes of a pound of waste material in 30 seconds/ weighs 24½ pounds/ **Universal-Rundle Corporation, New Castle, Pa.**

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Wolff & Phillips, Architects
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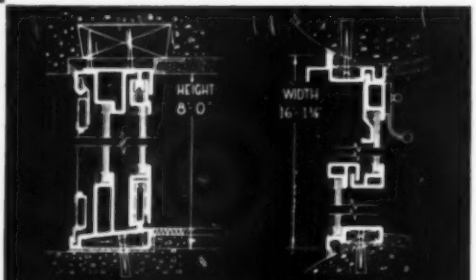

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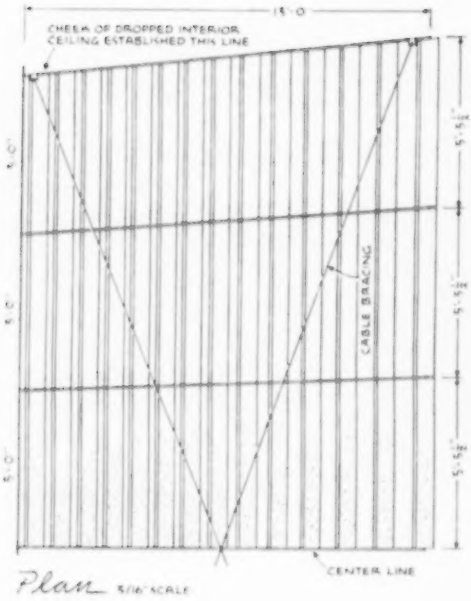
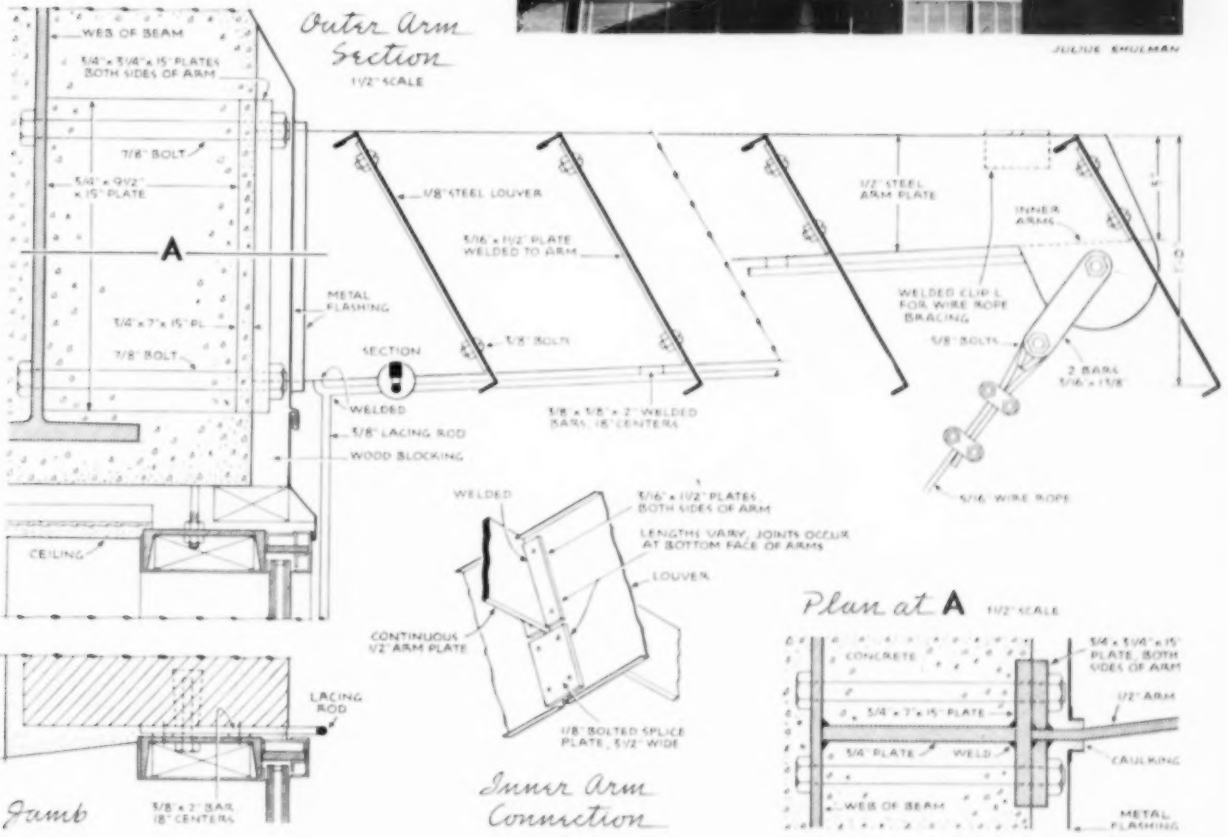


Plan 3/16" SCALE

Section

JULIUS SHULMAN



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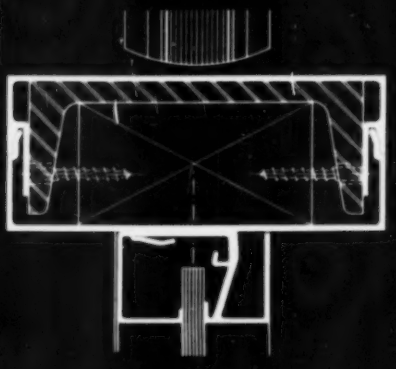

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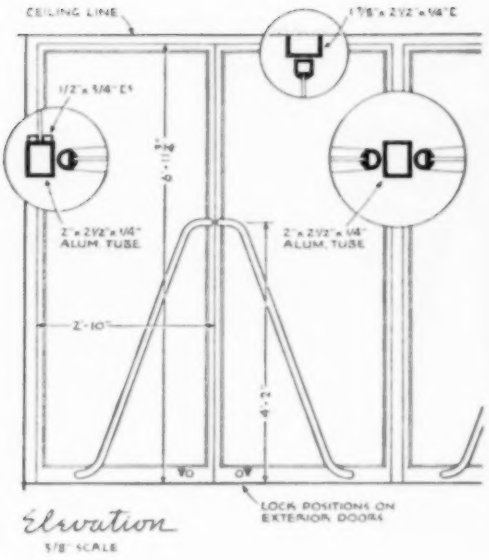

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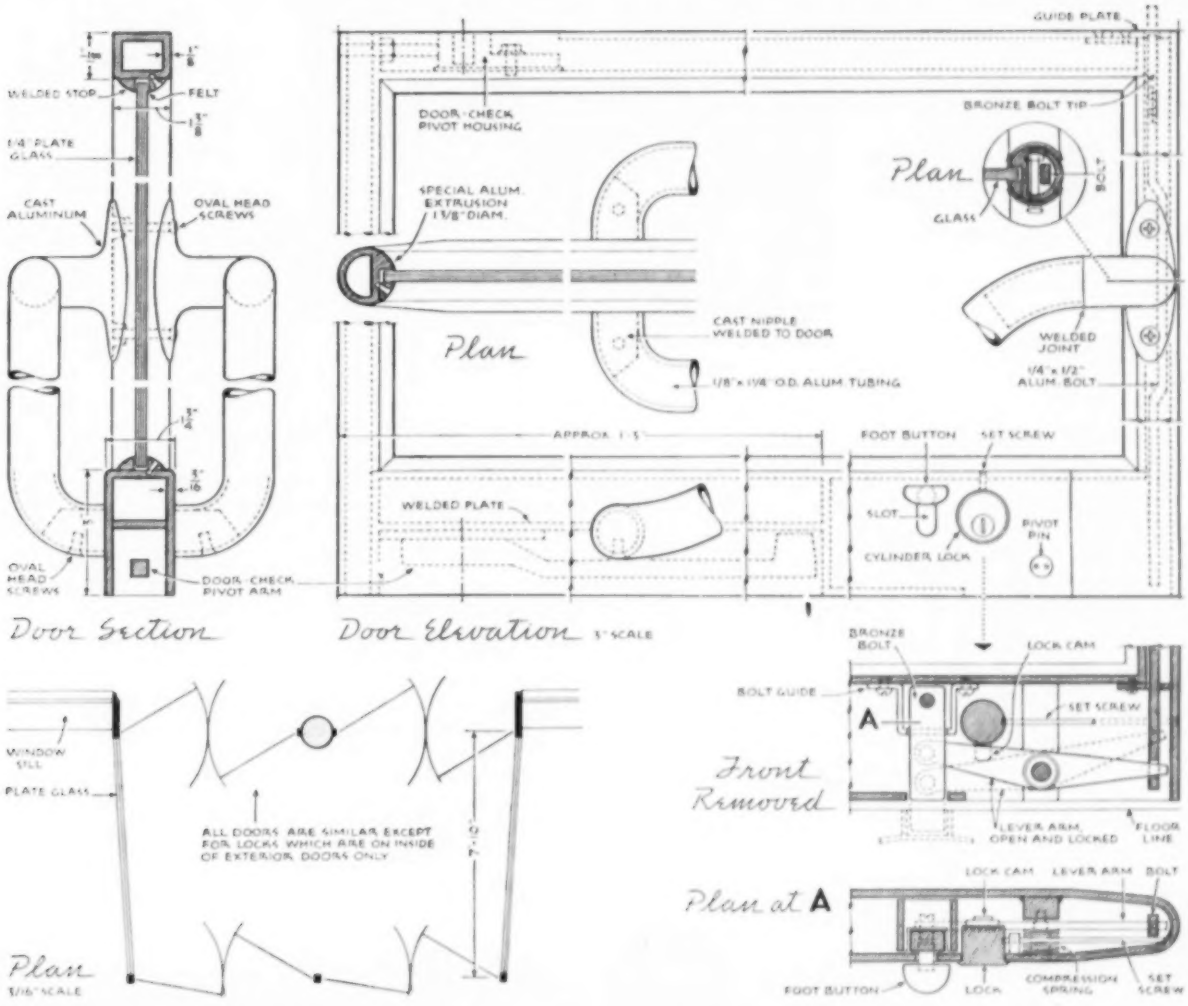
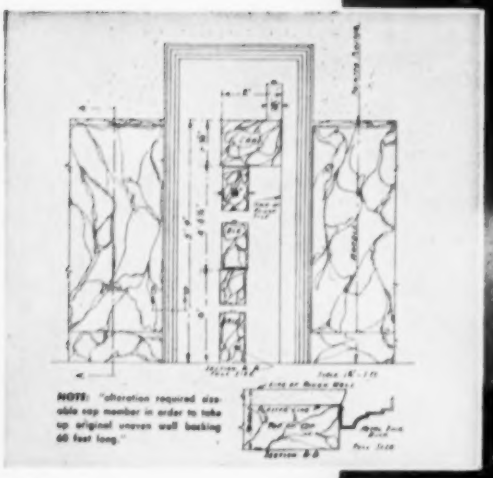


SUBURBAN BRANCH DEPARTMENT STORE FOR SCRUGGS, VANDERVOORT & BARNEY, Clayton, Mo.

Harry Armstrong, Architect



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Starrett & Van Vleck, Architects

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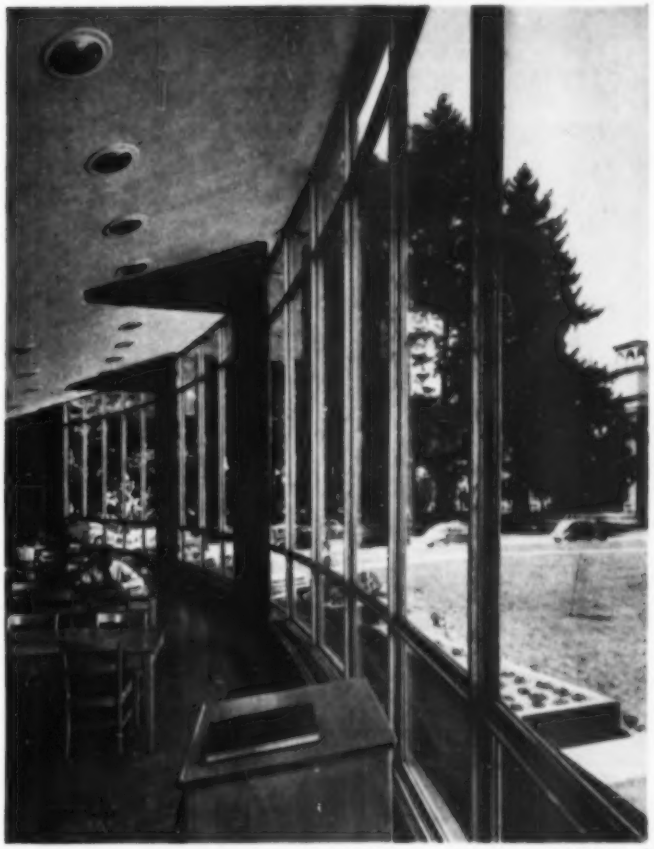
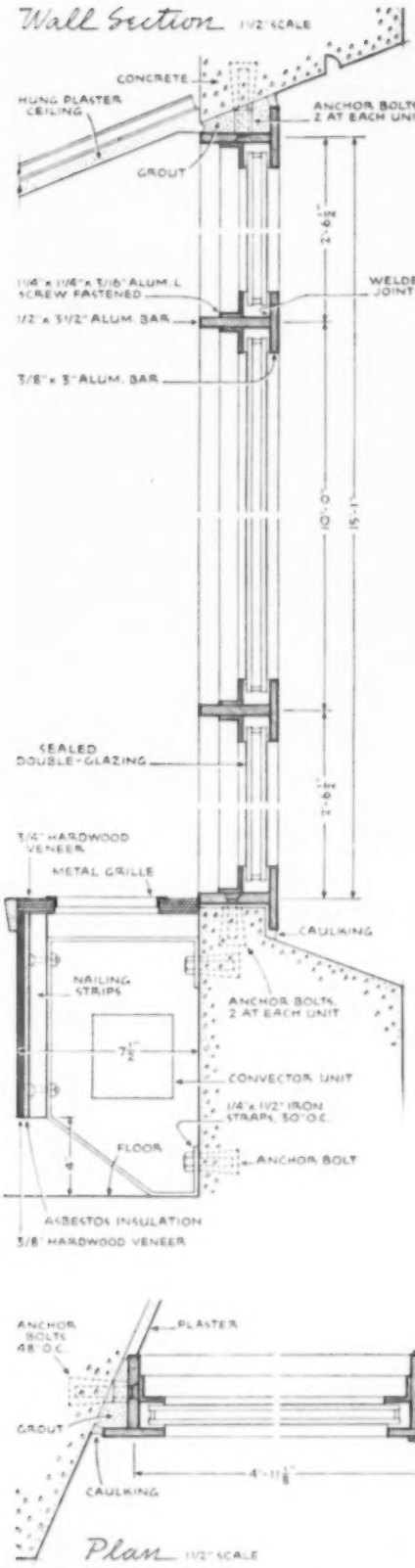
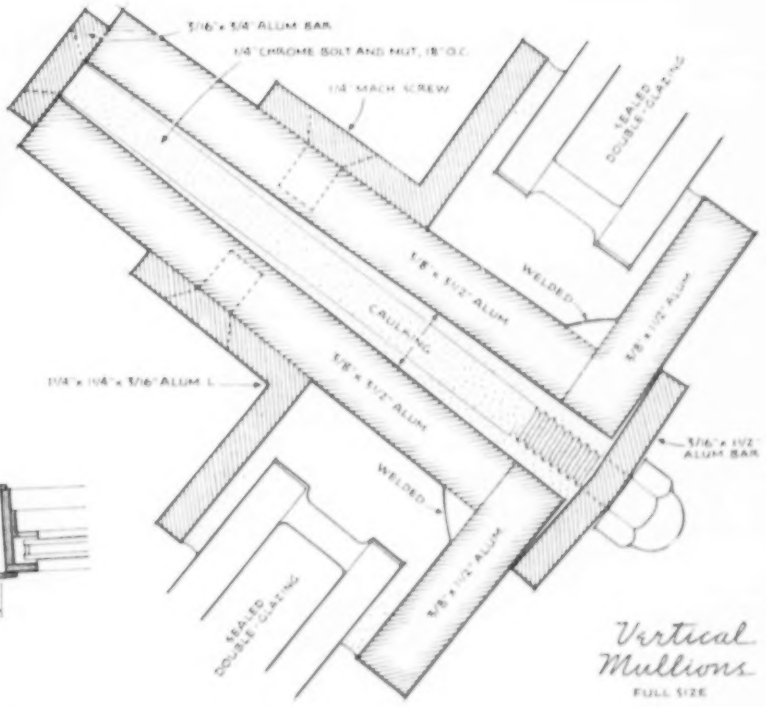
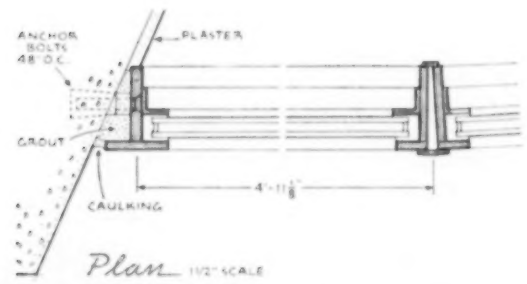


TOM BURNS JR







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Wolff & Phillips, Architects

GREATER ECONOMY IN ARCHITECTURAL CONCRETE!

Mount Royal Manor Apartments, Duluth, Minn. Contractor-Owner: W. C. Smith, Inc. Architect: A. Reinhold Melander—both of Duluth.

Owner-builder notes "lower costs" with Atlas Duraplastic* Cement

GOOD WORKABILITY is a prime essential in the success of architectural concrete since it serves as both a structural *and* a finish material. W. C. Smith, whose firm is contractor and owner of the Mount Royal Manor Apartments in Duluth, found "concrete made with Duraplastic has better workability, requiring less effort in placing, and that helps lower costs."

When you design for or build with concrete, it will pay you to consider the special advantages of Atlas Duraplastic, the original air-entraining portland cement.

You'll find it requires less mixing water for a given slump. And its more plastic mix aids proper placement, resulting in *improved surface appearance.* Moreover, since entrained air minimizes bleeding, or water gain, and segregation, concrete made with Duraplastic is also *fortified against the effects of freezing-thawing weather.* Both features add up to better concrete.

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AIR-ENTRAINING PORTLAND CEMENT

Makes Better Concrete at No Extra Cost

by Bernard Tomson

it's the law

Editor's Note — Tomson continues this month his discussion of the grave risk run by the Architect when he issues Certificates of Payment without proper control and auditing of the Contractor's disbursements. This is another, perhaps the most important, question raised by this columnist for serious study by the active professional.

What are the provisions of the *General Conditions* which pertain to payment to the Contractor? Initially, it should be pointed out that the *Conditions* do not contain any provision for audits of the Contractor's books and records. In *Article 24* is the chief provision relating to payment to the Contractor. This article provides in substance that the Contractor shall submit to the Architect an application for each payment and that *if required* by the Architect, he is to furnish receipts or other vouchers showing payments for material and labor and payments to sub-contractors. This article further provides that if payments are made, based on valuation of work done, the Contractor is to submit to the Architect a schedule of values on the various parts of the work and, *if required*, support such schedule by such evidence as the architect may direct.

For the protection of the owner, *Article 24* should not make the requirement to furnish evidence optional with the Architect. Before a Certificate of Payment is issued, the Architect should have sufficient evidence in his hands to make a sound determination. In this respect, receipts and vouchers are not sufficient. The Contractor should be required to furnish to the Architect the requisitions of his sub-contractors and other supporting papers upon which the Contractor's own application for payment is based. The Architect then is in a position thereafter to check against such sub-contractor's requisitions to ascertain if they have been paid pursuant to *Article 37* of the *General Conditions*. This check could be made by an audit of the Contractor's books and records, if the "*General Conditions*" were amended to provide for such procedure.

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Now, *Article 37* of the *General Conditions* covers the relations of Contractor and sub-contractor. It provides that the sub-contractor submit to the Contractor application for payment, in order to enable the Contractor to apply for payment under *Article 24*. The Contractor agrees to pay the sub-contractor:

(1) The amount allowed to the Contractor on account of the sub-contractor's work under the schedule of values described in *Article 24*; or

(2) To pay the sub-contractor upon payment of Architect's Certificate, so that at all times such payments shall be in proportion to the value of the work done by the sub-contractor; or

(3) To pay the sub-contractor in the manner provided by the contract documents, or the sub-contract, if these provide for earlier or larger payments than "(1)" or "(2)" above; and

(4) To pay the sub-contractor on demand at the time the Architect's Certificate should issue, even though it has not been issued for any cause not the fault of the sub-contractor.

No method is provided for the Owner, under *Article 37*, to determine as a matter of course whether *Article 37* has been complied with. Noncompliance can result in such unfortunate consequences as the imposition of mechanic's liens, disputes delaying completion or interrupting the job, insolvency, or bankruptcy of the Contractor, and other situations which can follow a Contractor's neglect or failure to treat such funds in the same manner as trust funds. Regular audits of the Contractor's books and records, to ascertain if payments have been made for labor and material and if the sub-contractors have been paid under *Article 37*, will afford a more orderly and controlled method for the supervision of the Contractor by the Architect.

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The *Article 26* of the *General Conditions* is concerned with payments withheld. It provides that the Architect may withhold or nullify a Certificate of Payment to protect the Owner from loss because of (a) "defective work not remedied"; (b) "claims filed or reasonable evidence indicating probable filing of claims"; (c) "failure of the Contractor to make payments properly to sub-contractors or for material or labor"; (d) "a reasonable doubt that the contract can be completed for the balance unpaid"; and (e) "damage to another Contractor." This again emphasizes the need to empower the Architect or Owner to check and audit the Contractor's books and records to determine whether payment should be withheld.

And *Article 32* of the *General Conditions*, which refers to final payment to the Contractor, provides that neither the final payment, nor any part of the retained percentage shall become due until the Contractor, *if required*, shall deliver a complete release of all liens arising out of the contract, *or* receipts in full for all labor and material. It further provides that *if required* the Contractor will furnish an affidavit that the releases and receipts include all labor and material for which a lien could be filed.

For obvious reasons it would be better if *Article 32* provided that the final payment or the payment of a retained percentage should be based upon proof of payment for all labor and material and upon the furnishing of release of liens by the Contractor. Further, the Owner and not the Architect should have the option of waiving this requirement.

•

The provisions of the *General Conditions*, which relate to payment of the Contractor and sub-contractor, are not satisfactory from either the Owner's or Architect's point of view. In making optional the Contractor's duty to furnish proof, it may be implied that the Architect is to require the submission of such proof only when he has reason to believe, because of extraneous facts, that the application or requisition of the Contractor is improper. The Owner, however, should be satisfied with nothing less than a binding requirement that proof be furnished as a matter of regular course and practice before a Certificate of Payment is issued. Further, it is obviously in both the Owner's and Architect's interest that the proof furnished be sufficient so that the Architect's determination is not based on surmise.

The *General Conditions*, as presently drawn, afford the Architect no sure and certain method by which he can execute his responsibility with a minimum of risk. In recommending that the *General Conditions* contain a provision making the books and records of the Contractor subject to audit, I do not mean to imply that the final responsibility for the issuance of a Certificate of Payment should be shifted from the Architect to the Owner. The costs of any audit and the personnel to conduct the same should be borne and furnished by the Owner, but the responsibility for the issuance or withholding of a Certificate should continue in the Architect.

In next month's column, I will recommend specific amendments to the General Conditions *insofar as they relate to "supervision of the Contractor."* B.T.

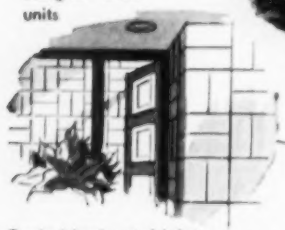
Coursed Ashler variation with 4" & 8" units

Horizontally stacked 8" x 16" units

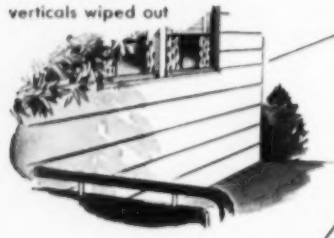
4" x 16" and 8" x 16" courses

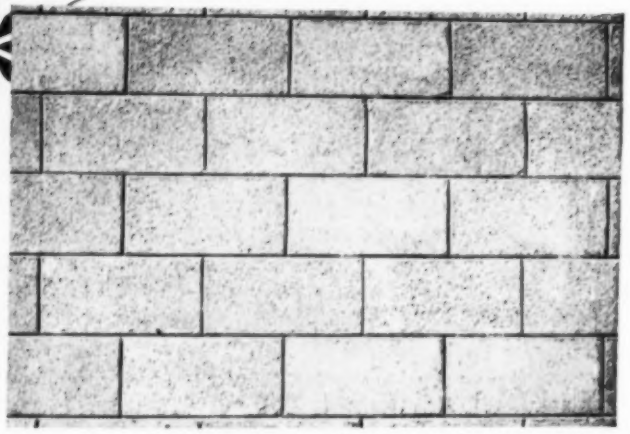
Basket-weave using 8" x 16" units

Theme and Variations

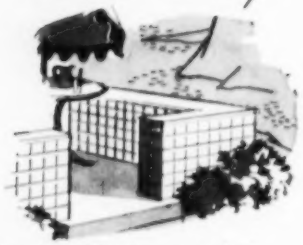


Tooled horizontal joints; verticals wiped out



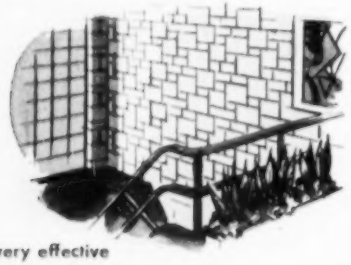


THE FAMILIAR THEME—8" x 16" FACE UNITS IN RUNNING BOND



Here 8" x 8" units are stacked

...with exposed WAYLITE Partitions and Bearing Walls



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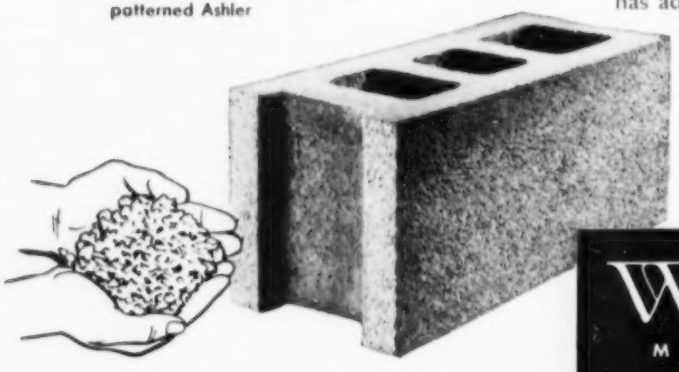

WAYLITE

MASONRY UNITS

by Carl Feiss

out of school

Words are man's most dangerous weapons. They are playing havoc all over the world today. In every language and for every purpose they are confusing our creative thinking as well as our peace of mind. Words have been jeopardizing world peace, have been bandied back and forth by world leaders (and would-be world destroyers) until we no longer understand what peace, freedom, liberty, democracy, and all of those great words mean to anybody. Babel today is no longer a mere confusion of tongues; it is a confusion of meaning of words within the tongues. The word "democracy" does not mean the same thing to the Communist Chinese, to the Hindu, to the Mao-Mao, to the inhabitants of the United States. Even within each of these national groups, interpretation and reinterpretation continue to be made—until Jean Jacques Rousseau, Franklin, Jefferson, and Paine would have difficulty recognizing what they were originally talking about.

To come down to minor local personalities, the word "democracy" does not mean the same thing to Joseph Hudnut and to me. I have just been reading his recent *The Three Lamps of Modern Architecture** lectures, delivered at the College of Architecture and Design in Ann Arbor, last May. I recommend to your reading list his third essay, "The Lamp of Democracy," not because I approve of it—but because I don't. And I don't agree with this essay, because I do not agree with what I interpret as Professor Hudnut's concept of the meaning of "democracy" as it applies to architecture. His concept of democracy in architecture is a timid one, as you can see by reading his foreword to his own lectures—and in particular by this strange last paragraph of the foreword:

"I am in favor of progress and of organic order, I believe in democracy; and yet I think it would be a disaster if our faith in these principles should defeat our art."

I am not writing a critique of Professor Hudnut's lectures here. I am discussing words. But I feel that if any of his audience, students, teachers, or readers of his published opus *(cited above)* should also be reading this, they should also consider another interpretation of "democratic expression in architecture" than the following passage from his third lecture. Professor Hudnut is speaking of public housing.

". . . The housing project thus describes democracy. These monstrous and formless buildings speak to us of equality, of security, of a contempt for luxury and the efflorescences of life and, incidentally, of that 'respect, gratitude and esteem' for mankind which Le Corbusier

(Continued on page 156)

* *"The Three Lamps of Modern Architecture": Joseph Hudnut; University of Michigan Press, 1952*

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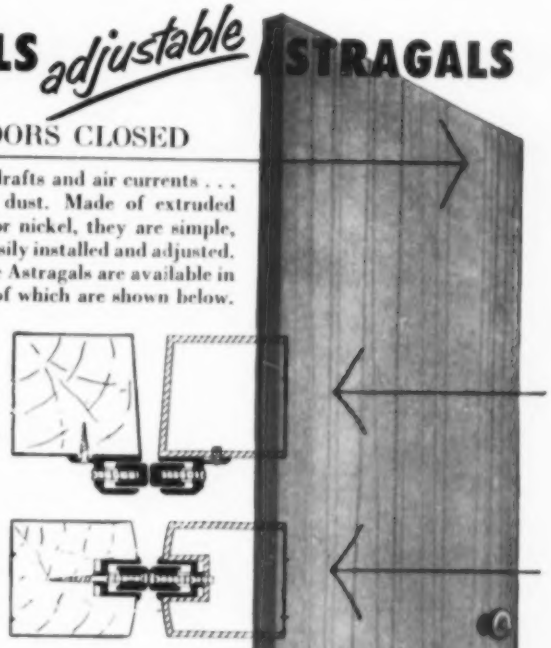

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(Continued from page 155)

assures us is a moral sentiment for an enlightened man.

"The schoolhouse also illustrates the democratic attitude and way of life, especially when it escapes all of those traditional patterns which have become integral to the decorous and artificial life of the Renaissance. The schoolhouse illustrates, more eloquently than any other artifact of our civilization, equality of opportunity. That is one reason no doubt for that 'peaceful horizontality' which is now the fashion in school building, for that 'openness' which connotes freedom not in space merely but in human relationships, and for that pinch of socialism in a workshop efficiency. These, like housing projects, describe democracy —the democracy of the humanitarian— and that somewhat hortative concept is as unmistakable also in the architecture of our public parks and oceanside developments, in our new shopping centers, in the master developments, in the master plans for the reconstruction of our cities, and even in our new highways."

While Professor Hudnut is worried about the fact that buildings built for a social purpose might, by accident, be expressive, he seems even more afraid that such expression might not be "Art." In speaking of Broadacre City he says: "The reformer, not the artist, speaks in such documentary architectures. There are moments when even Wright forgets to be an artist." This harks back to the paragraph of the foreword quoted above.

It is a strange phobia indeed that fears a marriage of art with democratic social purpose. It is as if the art in architecture were to be destroyed within such purpose. Why? It would seem to me that by denying the importance of tying the two together the art of modern architecture becomes superficial and surface art, and that social purpose is sterilized by being denied the requisite admixture of beauty of design so essential to the common good.

That the design of much of our public housing is "monstrous and formless" no one can deny. But why accept such a solution as inevitable or as "democratic expression"? These primitive and substandard hunks of "architecture" cannot be conceived of as "democratic" and are used in the context derisively to distract from any evidence of the architect's social responsibility in modern life. A living architecture can and must grow from the needs and the purposes of our times. While I agree with Professor Hudnut that opinion cannot be expressed in architecture (it is better expressed on pages such as these), I cannot agree with him when he says, "We must not reproach our architects for the death of architecture." In the first place architecture is not dead and secondly, if it were, who else would be to blame?

No, in my interpretation of the word "democracy" in architecture, I feel that the great architecture of today and tomorrow will be that which applies social

(Continued on page 160)

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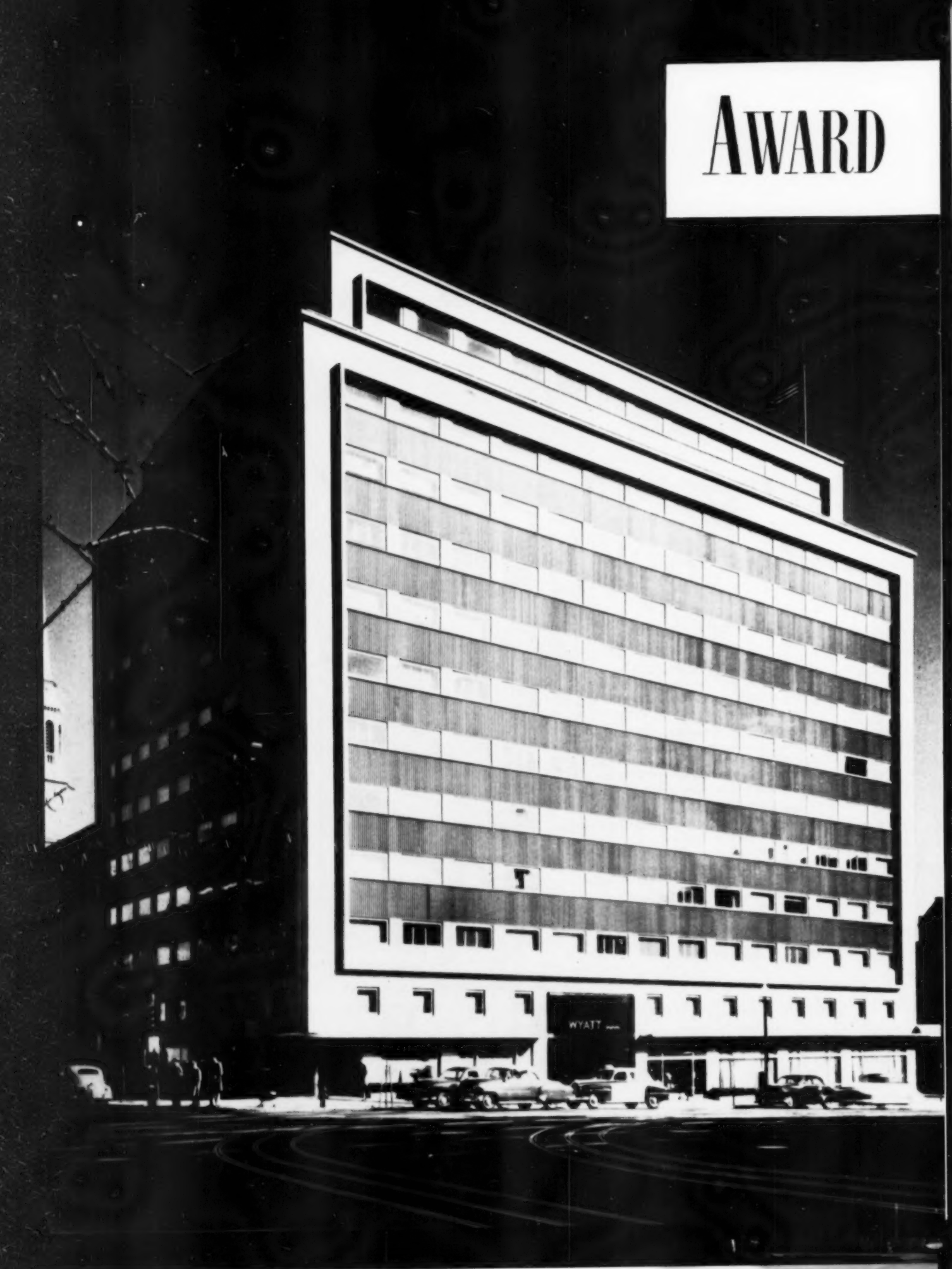

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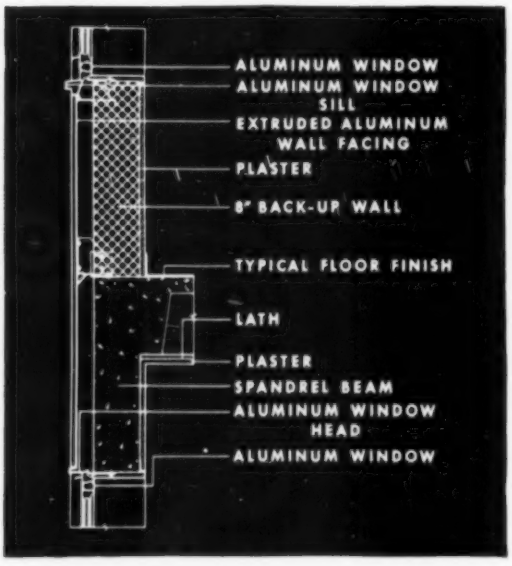

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(Continued from page 156)

purpose and scientific efficiency to the building of our entire community of living—not just the single building, as in the past. I can no longer accept the single building as an isolated art form out of context with people, place, and history. Architecture does not hang framed, Professor Hudnut, on the walls of a museum. Architecture is excellent art, Sir, only when it embodies within and without those excellencies of purpose, structure, plan, and beauty of design which satisfy the requirements for housing a civilized life. The word "democratic" when applied to a building must be propaganda—the propagation of a faith.

I did not get to the A.I.A. convention in Seattle this year and therefore cannot report directly on the educational battles that should have echoed across Puget Sound and against the ramparts of Mount Rainier. They probably didn't. Anyway, I have heard of one item of real importance to all of us and something to discuss in principle here. I'm not mentioning, of course, the idea of more than one candidate for A.I.A. political office. I wouldn't dream of getting this column mixed up in such a controversial good idea. No, what I have in mind is the program manual now being prepared by the Secretariat of the A.I.A. for the conducting of local chapter meetings and activities. The idea includes a syllabus of subjects to be considered, methods of conducting meetings, and a lot of other useful materials which chapter committees on education, committees on chapter programs, and public relations committees should find most useful. This manual should be ready, at least in study form, by the end of the year.

In my day I have attended many local A.I.A. chapter meetings. All too often they are poorly managed, dull, uninformed and uninformative, and while pleasantly relaxed when summed up, amount to not much more than a social get-together. The president of the local chapter is seldom a trained parliamentarian and the meetings ramble all over the map, business reports take too much time without coming to the point, and by the time the speaker of the evening is called upon after hours of fidgeting in his seat and wondering why in Hell he's there, half the audience is ready to go home and the other half is bemused by libations.

Local chapter meetings can be and should be the most important general professional educational activity of the architect (and of city planners as well). Such get-togethers must offer the practicing architect, his professional staff, and the professional fledgling, the means for intercommunication on ideas and experiences which are available only through direct personal and group contact. No architect or city planner can hope to improve himself or his practice by working in a vacuum. That an intellectual vacuum exists in all too many chapter meetings is not the same thing.

(Continued on page 164)

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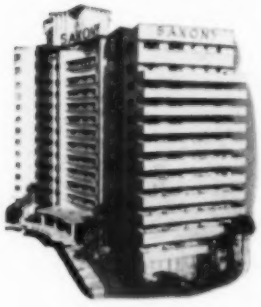

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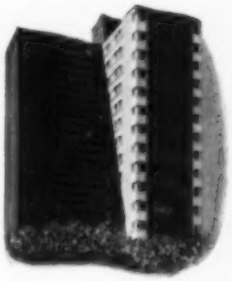

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(Continued from page 160)

The chapter meeting is potentially the best mechanism yet devised for the improvement of not only professional practice but also of our architecture as a whole. If the A.I.A. Chapter Manual does nothing else, it may serve as a guide and an idea stimulator for those who take it seriously. In my opinion the fear that it could rubberstamp chapter meetings is groundless. A little order, common sense, and constructive programming aren't bad ideas in the long run.

I know that the A.I.A. and the A.I.P. deservedly receive criticism. Any organization does—even our two major political parties. And there are always the local stand-aloof boys who retain the snide perfection of having never sullied themselves by joining the professional organization intended to represent their activities, nor have they felt that perhaps they might contribute to a profession's improvement. Looking at the situation as we must, it should be clear that professional education will always depend on the professional organizations for both life and leadership. Think twice about it.

There are no schools for college professors. I have mentioned this fact in several previous columns. We have the highly developed normal and educational school systems for teacher training at the primary and secondary school levels. But the colleges and the universities must depend for their new staffing on three sources: first, those working for or having just received master's or doctor's degrees; second, fishing expeditions into the stocked waters of other institutions with cash or prestige as bait; and finally they must recruit from the outside business or professional world for part-time or full-time staff. Architecture and city planning, as highly skilled, dynamic, technical professional fields, draw for higher educational purposes largely from the practicing professional, whether for part-time or full-time teaching purposes. Also, full-time teachers of architecture and planning must always keep abreast of practice. They cannot do so only by reading the magazines—good as P/A is, of course.

So we make a cycle of the situation. To get well trained teachers we need to provide for a well trained body of professionals constantly alert to old and new problems and to old and new methods of solving them. Those schools who become ingrown, which employ only their own graduates, are easily recognized by their stock trade marks. New blood of any age (age has nothing to do with teaching ability, as we all know) means that the professional body must have a smooth flowing circulatory system.

In *The New York Times* for Sunday, August 2, 1953, Dr. Benjamin Fine in his column, "Education in Review," discusses the recent 188-page report of the Carnegie Foundation for the Advancement of Teaching. This report deals with the Foundation's five-year experiment with 50 Southern colleges which under

(Continued on page 168)

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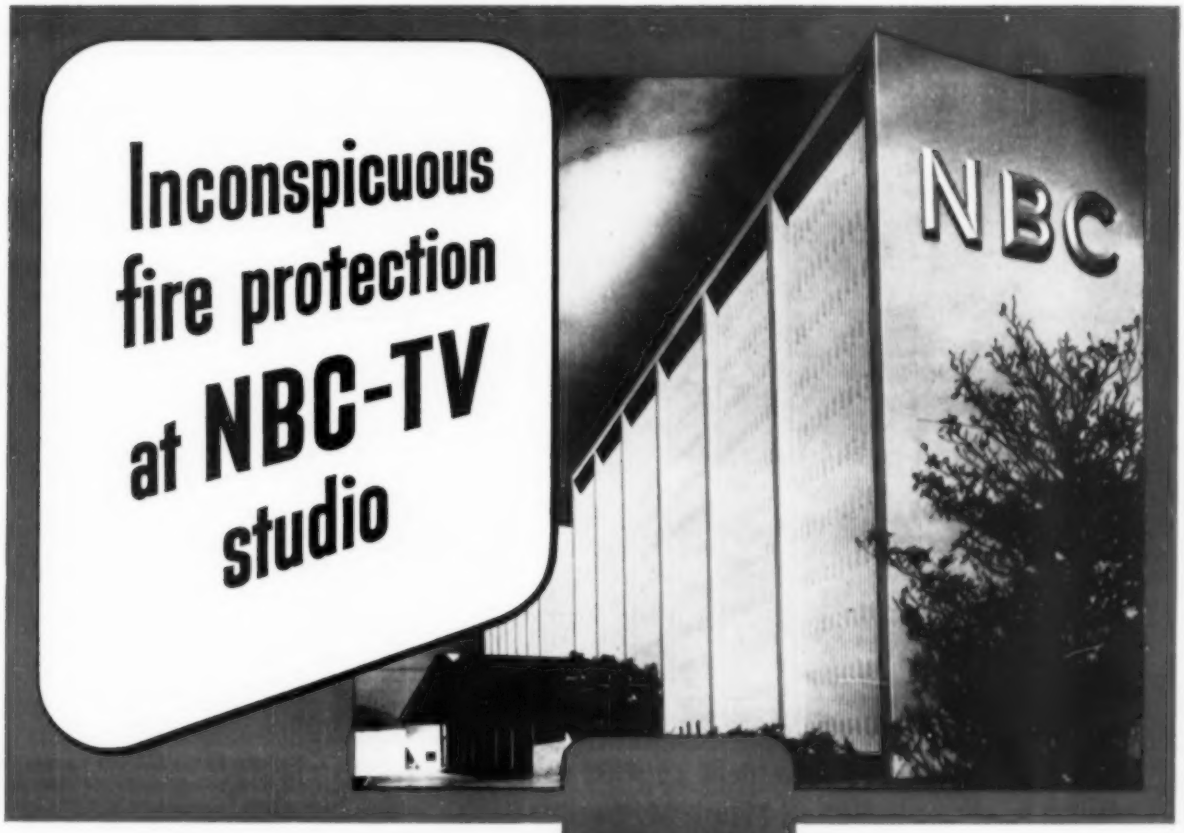
Inconspicuous fire protection at NBC-TV studio



When fire protection systems are planned in the design stage, as in the beautiful new television studios of the National Broadcasting Corporation, at Burbank, Calif., you can give your clients the most efficient protection against fire, without taking away from the appearance of your interiors.

The Grinnell Automatic Sprinkler System installed by NBC assures positive fire protection, yet notice how the sprinklers harmonize with studio interiors. Protruding only one inch from the ceiling, flush-type Grinnell Ceiling Sprinklers are among more than 1700 reliable Grinnell Sprinklers on guard throughout the building.

There is a Grinnell System of fire protection to meet the needs of every type of commercial, industrial, and institutional building. Call in the Grinnell engineer when your next project is in the blueprint stage. Long experienced in working with architects, he is always ready to help you. Grinnell Company, Inc., Providence, Rhode Island. Branch Offices in principal cities.

GRINNELL PROTECTION FOR EVERY FIRE HAZARD

Manufacturing, Engineering, and Installation of Automatic Sprinklers since 1878

Maryland builder tells how...

4 ways to save cut costs

C. E. Burgdorf, project manager and Monroe Warren, Jr., ass't treasurer for Meadowbrook, Inc., look over plans on the site of their new 550-home Rockcrest project. With them is Bill Aitcheson, sales manager for dealer, Frank M. Ewing Co., Inc., Washington, D.C.

"With more than 1,000 houses being built in this area in the $10,000 class, we knew we had to offer a better deal at $500 to $1,000 less. Our supplier, Frank M. Ewing Co., Inc., came up with these money-saving Insulite ideas that give us better construction plus a project saving of more than $39,000."

Monroe Warren, Jr. and C. E. Burgdorf,
Meadowbrook, Inc., Chevy Chase, Md.

1. Bildrite saves $21 per home. By using 4' x 9' Bildrite instead of 2' x 8', Meadowbrook, Inc. saves $5 per house in labor. Tremendous bracing strength eliminates need for corner-bracing (F.H.A. accepted), saves extra $16. Compared with wood, Bildrite can cut sheathing costs $80 to $120 per home.

ROCKCREST, Rockville, Maryland
Architect: Joseph W. Rogers Jr., Washington, D. C.

with Insulite $71 per home

2. Shingle-Backer saves $23 per home. Compared with No. 3 under-course shingles formerly used, Shingle-Backer reduced application time on the Rockcrest project 14 man-hours per home by actual time-study tests. At the same time, Shingle-Backer increases insulation value, produces deep, shadow-line

3. Primed Graylite soffits save $11 per home, compared with exterior plywood formerly used for this 16" overhang. Made of the same material as tough, weather-resistant Bildrite, Primed Graylite is primed at the factory. It's easy to cut, easy to handle, easy to nail and takes paint perfectly.

4. Insulite cuts porch ceiling costs $16 per home. One 6' x 9' sheet of Insulite Building Board covers this ceiling in a single operation. Costs $16 less applied than 1" x 4" beaded ceiling formerly used. One coat of rubber base paint covers it handsomely. Cove molding is applied around the edges.

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3. How Primed Graylite cuts soffit costs.
4. How to cut porch ceiling costs with Insulite.

Name _____

Firm _____

Address _____

City _____ *State* _____

out of school

(Continued from page 164)

its auspices embarked on a long-range program to improve the quality of campus professors. The Carnegie Foundation contributed $1,000,000 and the Southern colleges an additional $300,000 with the following basic purpose in mind:

"This program is based upon the belief that probably the greatest single need in American higher education today is to vitalize instruction. Dull teaching may result from the incapacity of the teacher; more often it derives from his intellectual inactivity. The surest way to improve instruction is to stimulate creative activity among faculty members."

According to Dr. Fine: "Throughout the South the Carnegie grants were often used to free teachers from summer sessions. In universities and colleges where no regular pattern of sabbatical or research leaves existed, summer teaching was a particularly troublesome problem. The grants gave many teachers throughout a whole area the first real summer freedom they had had in years, the first opportunity to settle down to do scholarly work. Returning after a free summer to the classroom, these teachers had a new perspective and the satisfying sense of having done first-hand things . . .

"In the fine arts, a scholar studying the important relationship between the architecture of Charles Mackintosh and the American architecture of 1890-1910, found his material scattered over Europe. Georgia Tech gave him free time off to go abroad, and the Carnegie organization augmented his own funds for the trip.

"Under the Carnegie program, the report notes, teachers improved themselves professionally in these ways:

(1) They obtained first-hand material and information that enabled them to present their subjects more intelligently in the classroom.

(2) They developed renewed interest in scholarship and research.

(3) They got a better insight into teaching practices in other institutions.

(4) They profited from exchanging ideas with colleagues in other sections of the country.

"The reaction of the professors who participated in the program was almost universally favorable. Here is a sampling of their own comments:

'It helped rub off the provinciality.'

'I got a new lease on life.'

'The most stimulating influence our faculty has ever known.'

'The best thing that ever happened to small Southern colleges.'

"Beyond any question, the program succeeded in its purpose—that of improving undergraduate teaching in American colleges and universities."

All well and good, and I hope the idea catches on. But as is evident, such an activity takes special financing. Also, recognizing that the Carnegie experiment has been a success, how is it to be put on a permanent basis and how is it to be sold to educational and elee-

(Continued on page 178)

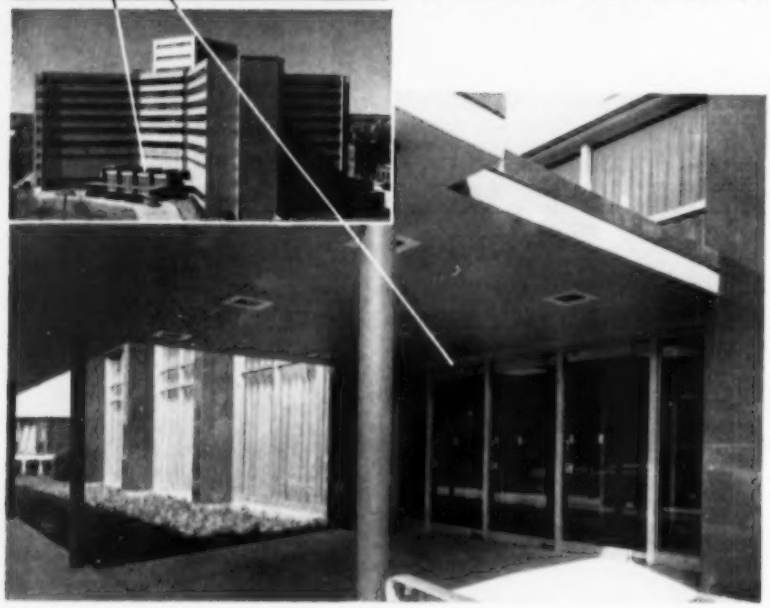
IN THE ENTRANCES TO

GRACE-NEW HAVEN COMMUNITY HOSPITAL

New Haven, Conn.

Ellison the BALANCED DOOR

ARCHITECT
the office of DOUGLAS ORR



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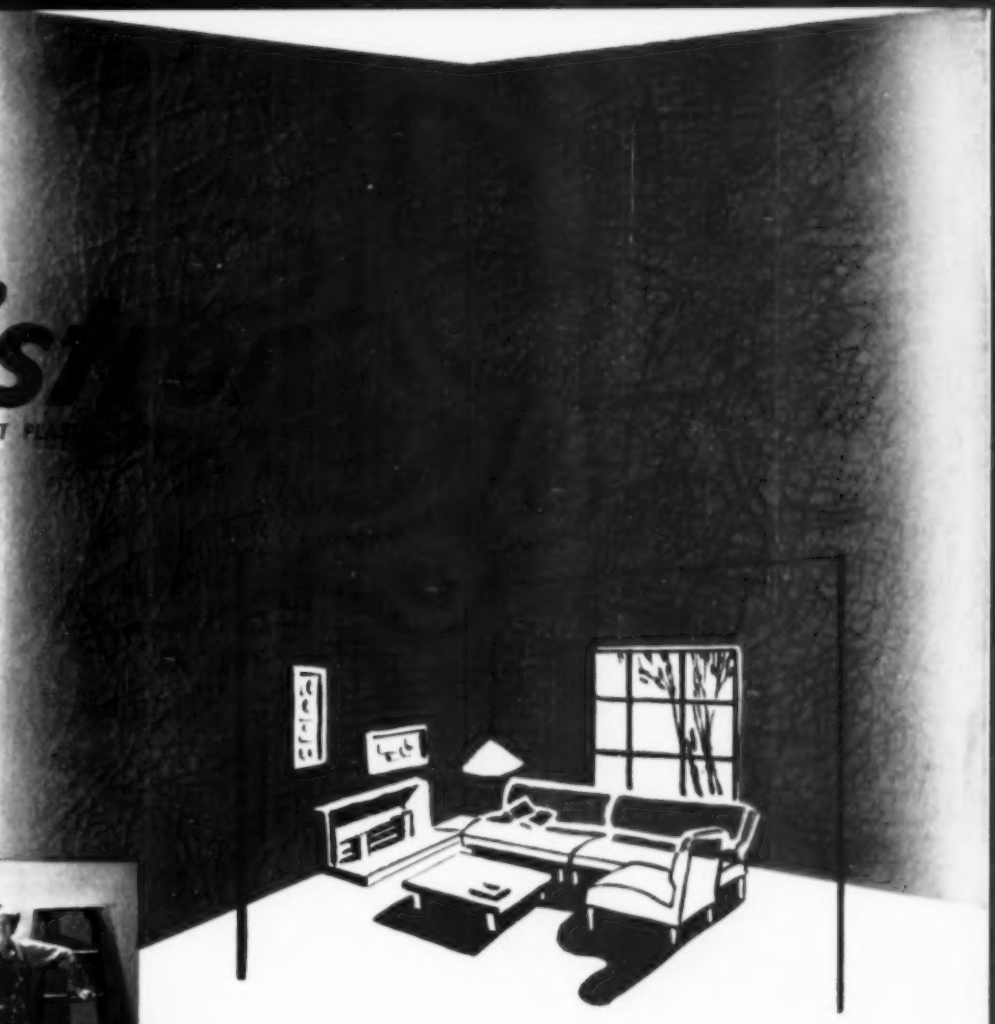

No wonder demand has DOUBLED this year for beautiful, decorative, "wipe-it-clean" Kalistron

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Functionally flexible, Kalistron can be mounted to curves, columns or straight walls. Also supplied with 3 way stretch fabric back for matching upholstery use. Architects find Kalistron ideal wherever beauty and durability must walk hand in hand—as in building corridors, offices, hotels, hospitals, schools, libraries, restaurants, bars, etc.

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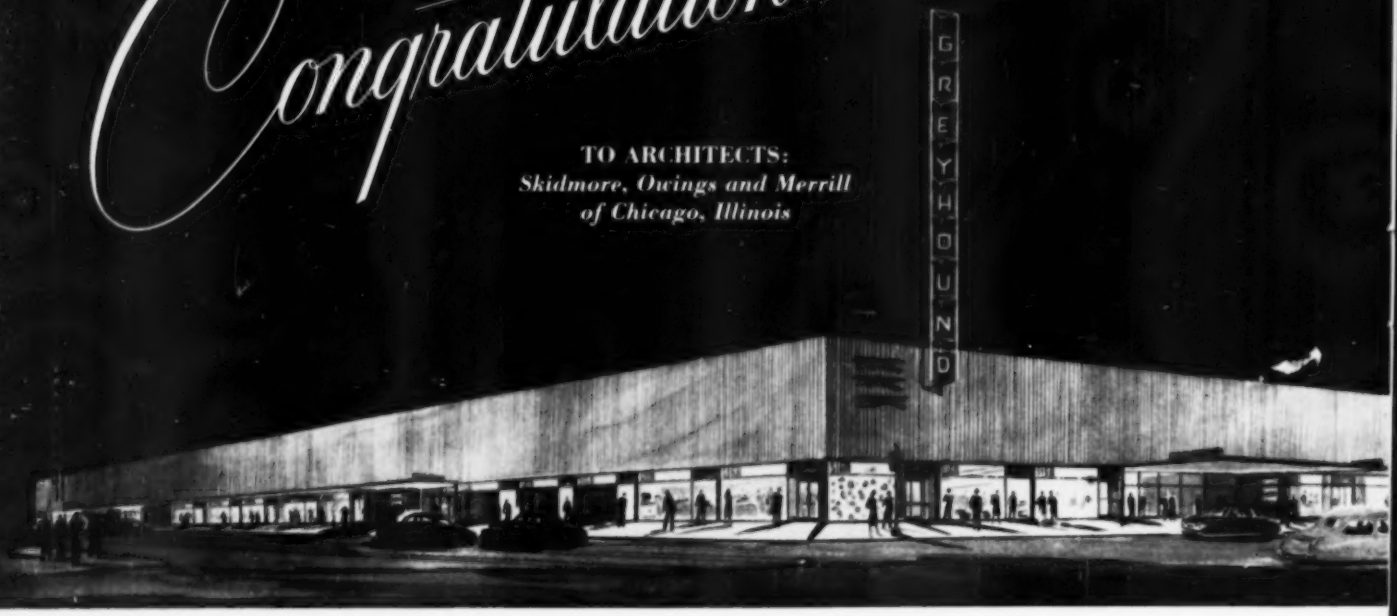
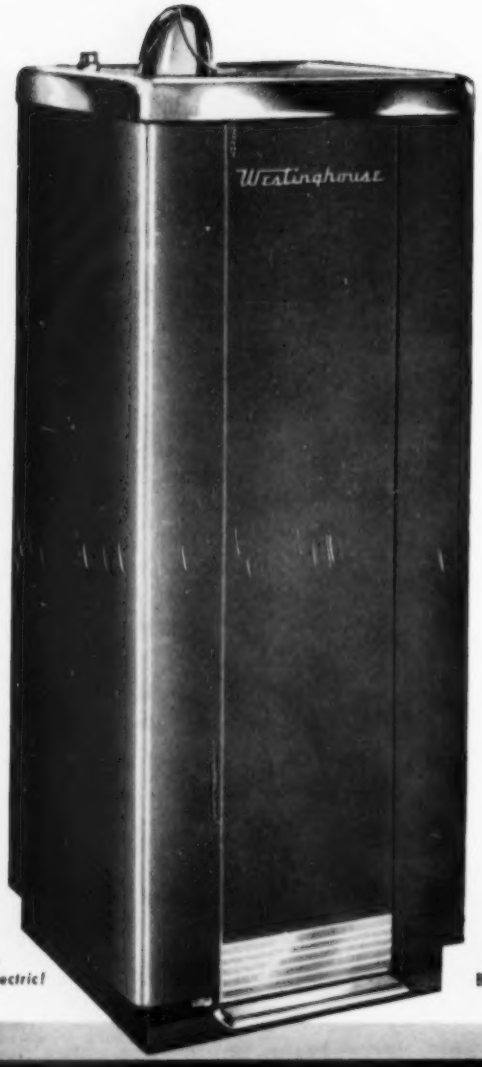


Greyhound Terminal Building . . . Chicago, Illinois



. . of course, it's electric!

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WW14A . . . 14-gallon capacity; water cooled model with these features: Stainless steel top. Foot-pedal control. Automatic stream-height regulator. Anti-squirt bubbler. 12 other models available with capacities from 1 gallon to 22½ gallons.

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WA13A 13-Gallon, Air Cooled

WA17A 17-Gallon, Air Cooled

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protects against high operating costs, too. Users agree that, in gallons per dollar, Westinghouse Water Coolers prove exceptionally economical. Especially the new 1953 air-cooled pressure models, which are remarkably cost conscious with higher capacity *Super Sub-Coolers*.

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investments in Westinghouse Water Coolers are conservative, adequately protected against depreciation and certain of long-time dividends in fine performance. For more details, and for planning assistance, call your nearby distributor or write Westinghouse Electric Corporation, 653 Page Boulevard, Springfield 2, Massachusetts.

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out of school

(Continued from page 168)

mosynary institutions on a national scale? And finally, how does such a program tie into the needs of Architectural and Planning educational institutions?

•

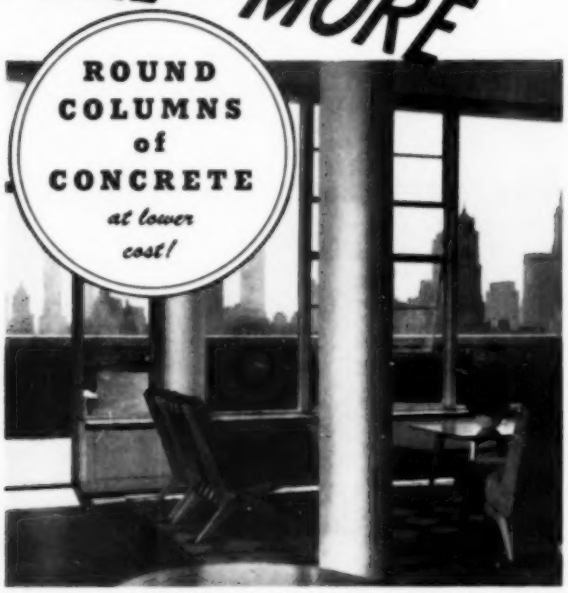
We have no immediate answers to such questions but they are worth discussing at local A.I.A. chapter meetings, at meetings of the Association of Collegiate Schools of Architecture, at meetings of the National Architectural Accrediting Board, at meetings of the National Committee on Education of the A.I.A. and at meetings of the little known National Architectural Foundation.

For the professional schools such a program could be enlarged to include supplying one of the missing links in educating the educators. It is a curious but accepted fiction that a good practicing architect makes a good college professor. Unfortunately nothing could be further from the truth. Teaching takes training, practice, will, and aptitude. These four vital elements are not present automatically when a practicing architect or planner accepts a part-time or full-time teaching responsibility. Many are the wasted vital academic hours due to the fumblings of the teaching amateur who tries to remember back to his old school days for his classroom manners. The educational administrator is seriously at fault for his irresponsibility in these matters. I have yet to hear of indoctrination seminars or courses on teaching method given by architectural school administrators to new faculty members. The Carnegie Foundation type of experiment could well be directed toward paying for the training of prospective teachers either at one institution choosing to specialize in the subject, or better yet, in an organized study of the wide variety of teaching techniques now in use in the scattered professional schools. It would have the added advantage of placing the present faculties on their mettle.

In the meantime, the local chapters of the A.I.A. should recognize that their activities programs have wider implications than those of a purely social or

(Continued on page 176)

MORE AND MORE



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DSR: Plastic side chair

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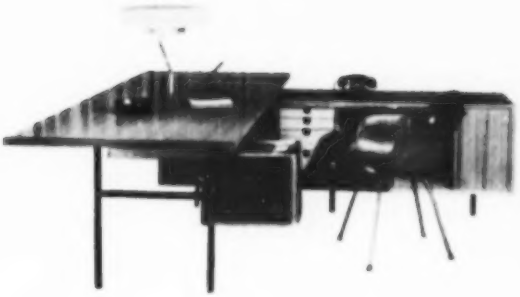

EOG: L-shaped office desk

DAX: Plastic armchair

DCM-R: Molded plywood chair with rack

X-leg table, plastic top

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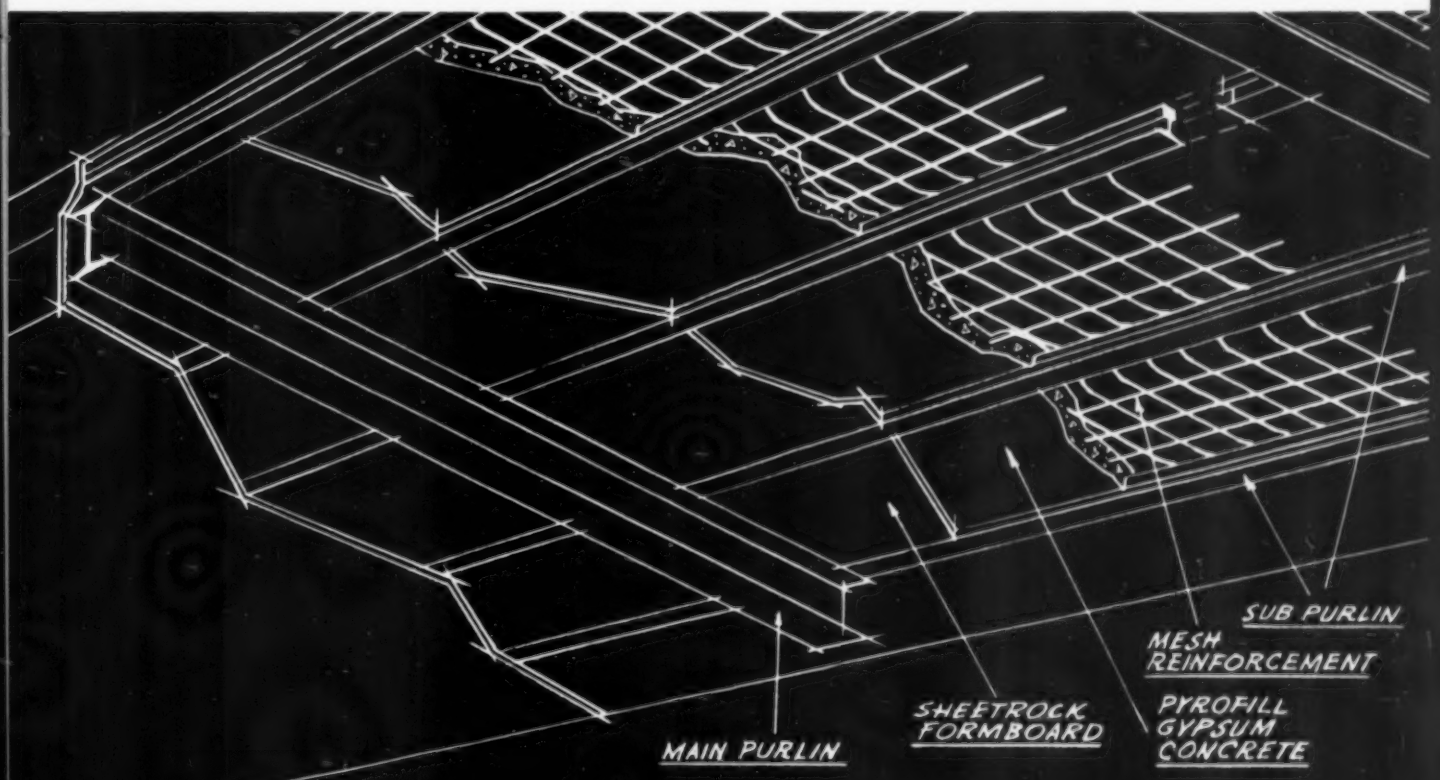

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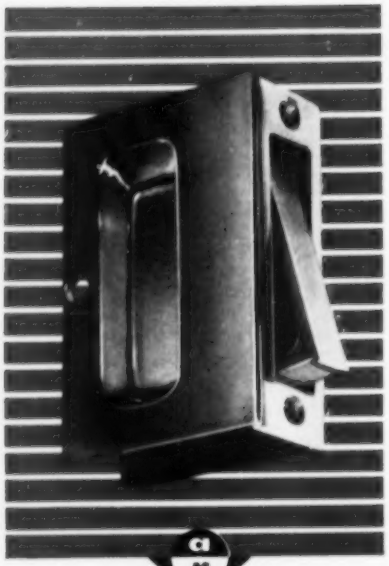

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out of school

(Continued from page 172)

newsmongering character. This is a serious business—the creation of better architects. You and I may differ widely in our definition of the better architect and in our choice of the methods for training him. But I am sure that by this time we are in agreement that teaching methods at the college and university levels should be at least as good as those to be found in the average high school from which our architectural and planning students come. There is no excuse whatsoever for a bad teaching method or a complete lack of it. I hope that this fall every dean of every architectural school will consider holding a series of training-method seminars with his teachers, if for no other reason than to get a few comparisons of ideas. Such meetings, incidentally, can do much to cement morale, once the back hair is let down.

Finally, I would like the professional educators to get together with the local A.I.A. chapters to talk over the type of questions raised here. There are, of course, many more. But if you think it worth while, I would concentrate on how the local chapters of the A.I.A., working with the schoolmen, can help in producing better teaching of architecture and planning, using a concentrated effort to find the funds necessary to continue the Carnegie Foundation type of program and extending every effort to co-operate in the primary task of continually teaching the teachers.

letters to the schoolmaster

Dear Mr. Feiss: In your August column, there is mention of the activities of CIAM with a rather confused statement of the policy of the Congress.

Our Congresses are open to all young groups; we do not have national groups, we judge people by their personal and team work. We have no individual members. The members of CIAM are members of a CIAM group. We have always tried to encourage young architects from this country to join CIAM and in our last meeting, we admitted a new group from Philadelphia. CIAM is a work-

(Continued on page 180)

when there's more than one floor .... think of

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to move loads from floor to floor and to make better use of space
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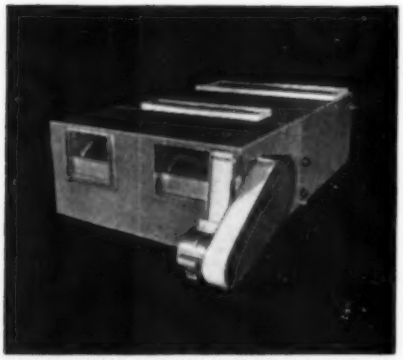

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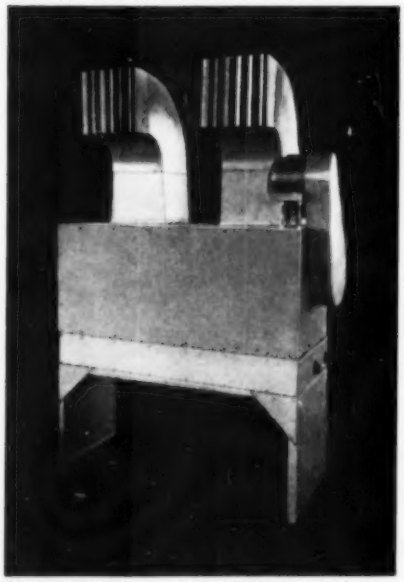
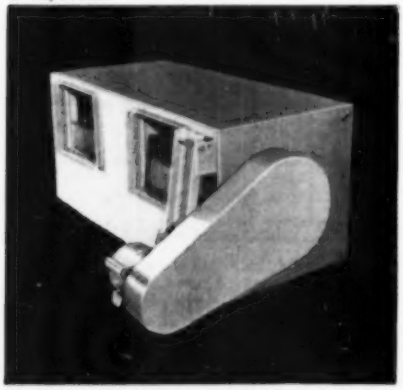


HERMAN NELSON TYPE "M" CENTRIFUGAL FAN UNIT HEATER. For industrial applications this brand new unit features—high cfm capacities—high heat output—effective air distribution obtained by moderate outlet velocities combined with specially designed nozzles and deflectors. Standard and heavy duty heating coils available in a wide range of capacities.



HERMAN NELSON TYPE "V" VENTILATING UNIT. This new model features one, two or three fans on a common shaft and housed in compact cabinet for straight-line air movement. Especially useful for booster work in ducts—for untempered air supply or exhaust.

herman nelson announces a

NEW LINE

of air handling equipment

CHECK THE FEATURES OF THE NEW HERMAN NELSON LINE

SECTIONALIZED CONSTRUCTION — all units are constructed for easy installation. Cabinet arrangements can be readily changed on the job site if conditions make this necessary.

SERVICEABILITY — easy access to all components is provided. Heating coils are accessible through the top or bottom of the cabinets and there's a hinged access door for filters.

BUILT FOR LONG LIFE — all models have double width, forwardly curved fans mounted on over-sized shafts with permanently lubricated bearings — mounted outside of air stream.

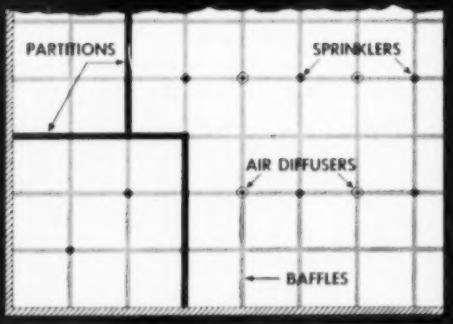
The new line is quality constructed throughout by a company with a long established reputation in the heating and air handling field. Member of the N.A.F.M. and I.U.H.A. and all units tested and rated according to the respective codes.

for complete information — on these new models — write: HEATING AND VENTILATING DEPARTMENT, AMERICAN AIR FILTER COMPANY, INC., LOUISVILLE 8, KY.

American Air Filter
COMPANY, INC.
268 Central Avenue, Louisville 8, Kentucky
American Air Filter of Canada, Ltd., Montreal, P. Q.

AAF herman nelson

All essential ceiling components in a single integrated modular system



At each modular interval of Sigma-Plex either an acoustical baffle or a movable partition may be set in place. Sprinklers or supplementary air diffusers may be mounted at the intersections of baffles. Names of reputable manufacturers of movable partitions, high velocity venturas and sprinklers for integration with Sigma-Plex will be furnished by Wakefield.

for combining

- **lighting**
- **acoustics**
- **air diffusion**
- **sprinklers**
- **movable partitions**

that's Sigma-Plex

The architect's plea for functional compatibility of diverse components is answered once and for all by Sigma-Plex. For now the architect may design office areas of any size or shape knowing he has available to him, as standard products, a number of the most important interior elements, all ready for integration into a harmonious whole.

Job-engineered to the modular requirements of the building, Sigma-Plex as supplied by Wakefield consists of:

A Ladder-Type System of lamp holders together with lighting and wiring channels to be mounted directly on the structural ceiling. From these channels, receiving channels are suspended to support the light diffusers and to receive either acoustical baffles or movable partitions.

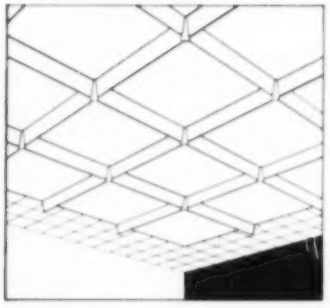
Rigid-Arch Plastic* Diffusers framed in extruded aluminum. These diffusers have a non-specular matt finish, and are arched from edge to edge for extra rigidity. A special Touch-Latch permits lowering and re-closing the panels from the floor by means of a touch rod.

**Plexiglas or Lucite.*

Acoustical Baffles of perforated metal filled with a fiber glass core. These baffles are interchangeable with movable partitions at any modular interval. Sprinklers or supplementary air diffusers may be mounted as desired at baffle intersections. Partitions, sprinklers and venturas are not supplied by Wakefield; see note on left page.

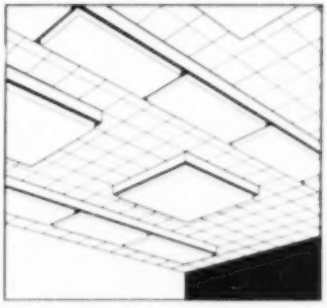
Sigma-Plex is one of a series of Wakefield Geometrics. The others:

Theta-Plex



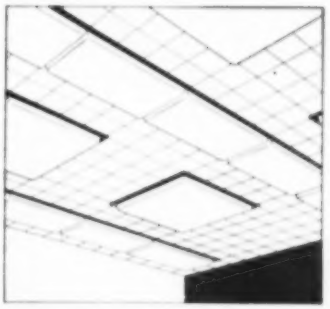
Designed on a four-foot module, Theta-Plex permits coordination of Rigid-Arch plastic diffusers, acoustical baffles, supplementary ceiling areas of acoustical tile, sprinklers and supplementary air diffusers. At each four-foot interval an acoustical baffle may be set in place; or four-foot panels may be joined together in varied combinations.

Omega-Plex



Omega-plex is a complete unit with Rigid-Arch Diffuser, ready for on-surface mounting with no structural ceiling changes required. It comes in four sizes: 1′ x 4′, 2′ x 4′, 2′ x 2′ and 1′ x 4′. Ballasts and lamp holders are contained in an individual metal housing. Omega-Plex may be used individually or combined in a variety of designs. Available with louvers.

Beta-Plex



Beta-Plex is a complete unit with Rigid-Arch Diffuser, ready for recess mounting in a suspended ceiling. It comes in 4 sizes: 1′ x 4′, 2′ x 4′, 2′ x 2′ and 1′ x 4′. Ballasts and lamp holders are contained in an individual metal housing. Employing various Beta-Plex sizes, singly or in continuous patterns, the architect can create numerous designs. Available with louvers.

An eight-page, three color folder, with illustrations, technical drawings and descriptive text, has been prepared for each of the Wakefield Geometrics. Copies will be sent you if you will write The F. W. Wakefield Brass Company, Vermilion, Ohio. In Canada, Wakefield Lighting Ltd., London, Ont.

WAKEFIELD GEOMETRICS

Integrated modular components for functional ceilings

No Overhead Space Lost
No Wall Space Lost
Opened Door Clears Entire Doorway
Wind or Storm Can't Damage Doors — Open or Closed!

because they're

Kinnear Steel Rolling Doors

You can see some of the many advantages Kinnear Rolling Doors bring to all types of service opening in this warehouse installation.

Coiling compactly above the lintel, Kinnear Rolling Doors *never get in the way of the overhead conveyor.* And since they need no wall space for either storage or operation, posts, walls, windows or other doors can be placed flush with the door jambs on both sides of the opening.

These and other space-saving conveniences are in addition to the long-wearing ruggedness, fire resistance, and protection of Kinnear's interlocking steel-slat curtain. Their coiling action is also ideal for motorized, push-button control.

Kinnear Steel Rolling Doors are built to fit opening of any size, in any building, old or new. Write today for full information.

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Factories:
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Offices & Agents in All Principal Cities

out of school

(Continued from page 176)

ing Congress and, of course, the groups joining the Congress do contribute with their work. That is what has, up to the present, limited the participation in CIAM to relatively low numbers.

In spite of this, in our last Congress we had three-hundred-fifty (350) people, the majority of them young people. The groups contributed thirty-two (32) projects that were shown and discussed by the different commissions.

JOSE LUIS SERT
CIAM President
New York, N. Y.

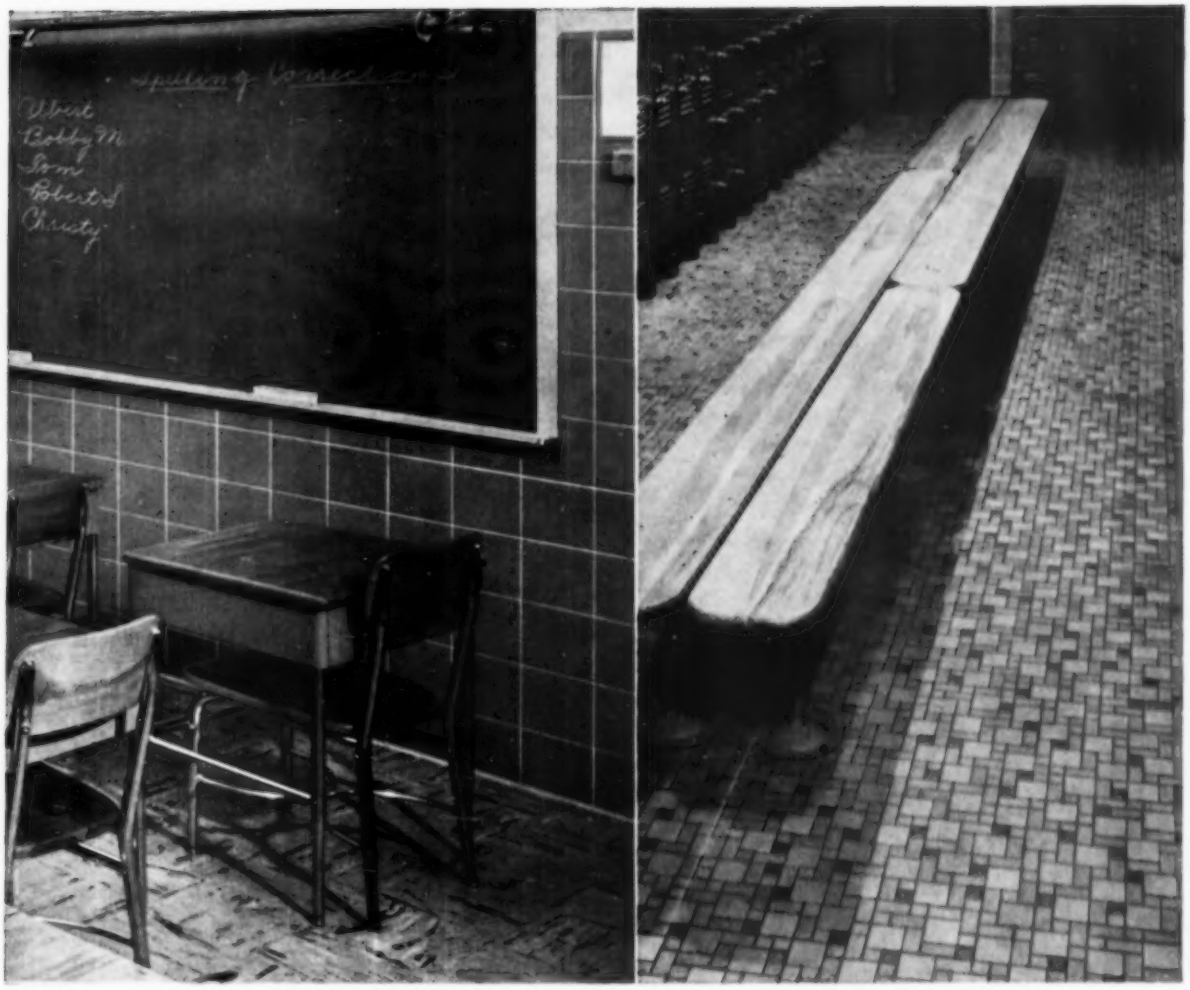
•

Dear Carl: I have recently prepared a statement on the advantage of University Planning Service to Communities, which was presented at the Citizens National Conference on Regional Planning held here in New Orleans a few weeks ago. It is possible that you may wish to comment or use a portion of this statement in your column. I shall be flattered if any of it might be usable and enclose a copy of it herewith:

No reputable university today, wherever it may be located, can afford to be disinterested in some phase of the comprehensive planning for the city and the region. The multiplicity of disciplines and interests which compose the university overlay most of the complexities inherent in the planning process; the social sciences, the physical sciences, the humanities, and professional schools all concern themselves with countless variety of studies related in one way or another to the search for a better way for people to live together in communities. We are not referring here to the specialized planning school as such, but rather to the kind of work normally done in the first rate departments such as Sociology, Economics, Political Science, Architecture, Engineering, Landscape, Law, Public Health, etc. In addition to these, many universities have various bureaus of Public Administration, Urban Life, etc.

During the last generation, the universities have faced a direct challenge which came as a natural outgrowth of the

(Continued on page 184)



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- It retains its colors and its finish for the life of the building, with an absolute minimum of maintenance.

American-Olean tile is noted for its precise sizing and careful color control—it's real clay tile.

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TILE SPECIFICATIONS FOR THESE UP-TO-DATE ROOMS: *Class Room:* Color Plate 326. Windemere Blvd. Elementary School, Buffalo, N.Y. *Walls:* 21 Cornflower, 4¼" x 6". *Locker Room:* Color Plate 327. Milford School, Milford, Conn. *Floor:* 1⅛" x 2⅜" Random Pattern, Light Range Varitone, Light Olive Textone.

FREE COPY OF BOOKLET 300 gives you many other helpful color photos of actual tile installations, and abundant color scheme suggestions and specifications. You can use the booklet as a guide whenever you specify tile. Send for your copy today.

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Whether in the drawing board stage, during construction, or in the finished building, the ability to make acoustical analyses and predetermine acoustical specifications can make a tremendous difference—a difference in sound conditioning effectiveness, a difference in appearance, a difference in cost.

That's why—whatever your acoustical requirements—you'll find the counsel of your Acousti-Celotex distributor invaluable. As a member of the *world's most experienced acoustical organization*, he has a diversified background that encompasses acoustical installations of every type and size . . . a knowledge of every known application technique.

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- All-aluminum—engineered for trouble-free service.
- It is fireproof—because it is all metal.
- The finish is "GLO-DULL"* anodized aluminum—stays permanently beautiful.
- Spring-type suspension compensates for expansion, contraction and settlement—helps prevent the breaking or buckling of boards.
- Trim cannot warp, contract or expand—never needs painting or refinishing.
- Easy to install.

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Write for additional information, including literature, catalogs and samples—

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2 LOXIT-TYLAC RITE GREEN Chalkboards, both the Junior ¼" thick and the Senior ½" thick.

3 LOXIT-TYLAKORK Tackboards in a choice of six colors: Autumn Tan, Spring Green, Twilight Gray, Sun Tan, Leaf Green and Roadside Green.

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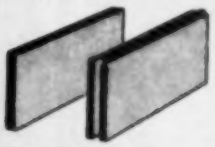
9 Loxit Technical Service available, without obligation, to architects, contractors and school authorities to help solve any and all problems in this field.

*Reg. U. S. Pat. Office

LOXIT-TYLAC RITE GREEN CHALKBOARDS • LOXIT-TYLAKORK TACKBOARDS



RITE GREEN JUNIOR ¼" THICK — RITE GREEN SENIOR ½" THICK

RITE GREEN Chalkboards meet all classroom requirements. Excellent writing surface — easy erasing — strong — waterproof — washable. The color is just the RITE GREEN for low reflectivity and high readability.

The Tackboards are fabricated from ground cork, compressed under high pressure. Pins and tacks go into the cork easily — they hold tight — and the holes close when they are removed. In six colors.

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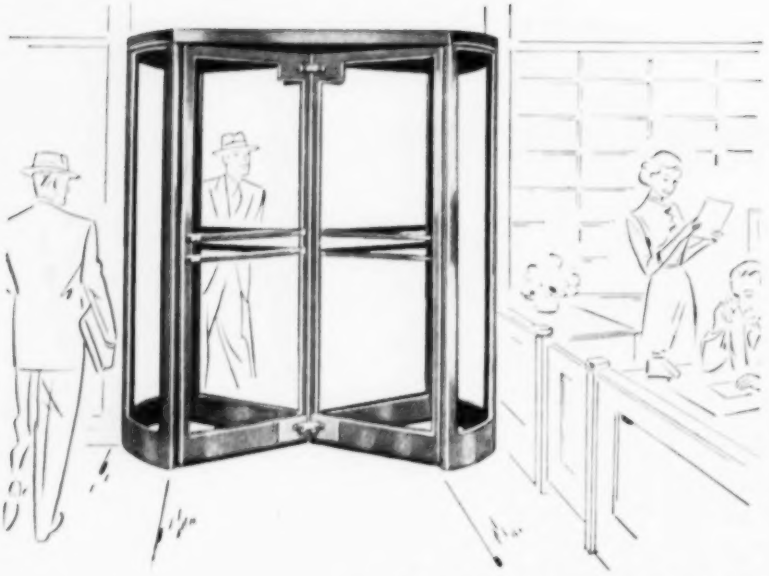

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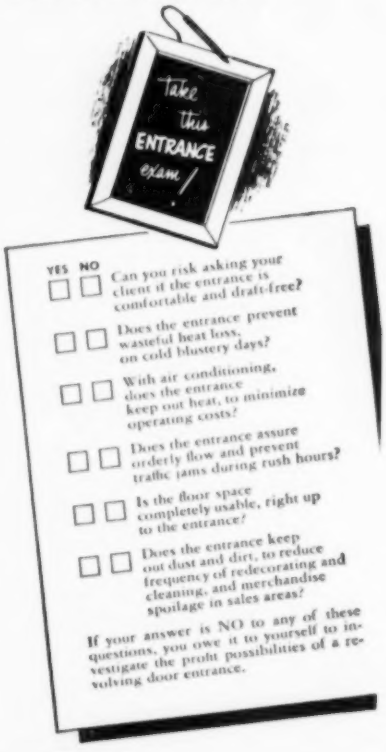
ONLY ONE-FIFTH THE AVERAGE COST of swing-door maintenance—only periodic lubrication plus an annual service check—are required to keep revolving doors in peak operating condition under any and all conditions.

That's because ONLY revolving doors are *always* balanced against pressure and leverage, always open at a touch . . . yet always closed to outside drafts, dust and noise. There are no door closers to break or adjust, no hinges to sag, no slamming. No wonder—along with the other cost-saving advantages demonstrated at the right—that *over half* of all revolving door installations replace swing doors!

See our complete catalog in Sweet's. And write today for our special revolving door booklet, covering all the self-paying features of these finer entrances. You'll find it profitable reading!


Take this ENTRANCE exam!
YES NO
Can you risk asking your client if the entrance is comfortable and draft-free?
Does the entrance prevent wasteful heat loss, on cold blustery days?
With air conditioning, does the entrance keep out heat, to minimize operating costs?
Does the entrance assure orderly flow and prevent traffic jams during rush hours?
Is the floor space completely usable, right up to the entrance?
Does the entrance keep out dust and dirt, to reduce frequency of redecorating and cleaning, and merchandise spoilage in sales areas?
If your answer is NO to any of these questions, you owe it to yourself to investigate the profit possibilities of a revolving door entrance.

LONGEST SERVICE REVOLVING LEAST SERVICING
INTERNATIONAL-VAN KANNEL DOORS
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IN CANADA — International-Van Kannel Doors are available through Eastern Steel Products, Ltd., Toronto and Montreal.

out of school

(Continued from page 180)

"learning by doing" principle and the project method in teaching. Metropolitan universities have directed their increasing attention to the great urban area about them as a natural laboratory; and the schools located in rural centers have found their own special problems. Hundreds of trained specialists guiding the work of thousands of students have produced vast quantities of research data, reports, and planning studies; they have built up special collections of books, manuscripts, and pamphlets on fundamental areas concerning the planning process.

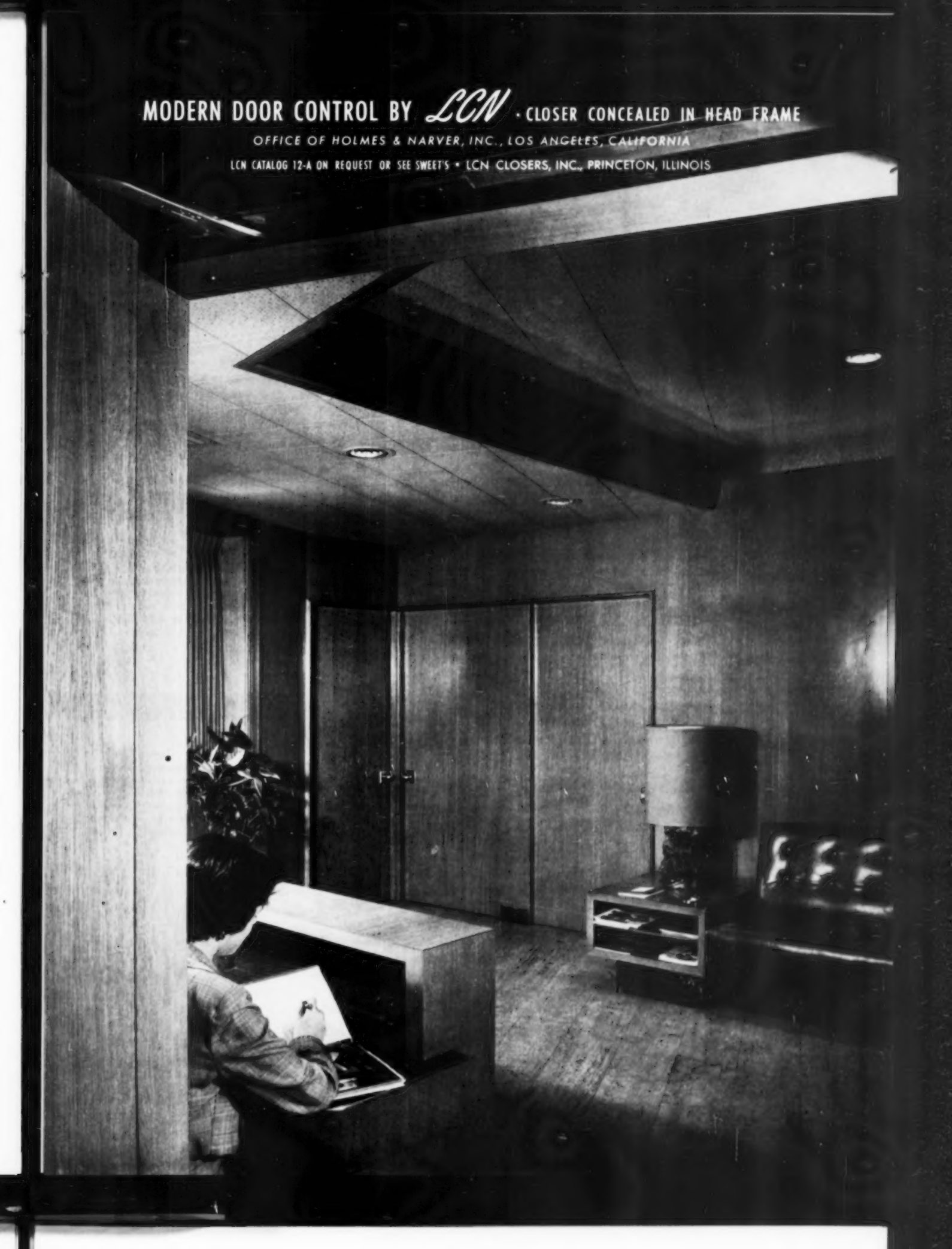
Whatever may be the intrinsic worth of the research material accumulated by the universities, there is another even more significant value not generally recognized by official planning commissioners; viz. that the university possesses a potential of personnel and techniques which could be extremely useful to them. In most cases the colleges and departments would be glad to play a more active role in community and public service. Some already have demonstrated their effectiveness but, as yet the potentials have not been widely developed.

As an educational institution, the university maintains a far more detached position than even the least political minded planning commission. . . .Recognizing the inevitable conflicts between one group and another, or one section and another, the university can assemble impartial research data; its studies are less open to the suspicion of partisan politics. Moreover, the university in the very nature of its class activity, can produce a number of alternative solutions to any one specific problem. Being detached, the university can invite discussion and criticism.

Located in the largest and one of the oldest cities of the south, Tulane University for a number of years has carried out basic research work in the following areas:

(a) the role of transportation in urban development
(b) the impact of the rural migrant
(c) the economy and special conditions in urban areas

(Continued on page 188)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PLANS AHEAD

1954 editorial program will be based on factors producing 1954 architecture

The editors of PROGRESSIVE ARCHITECTURE, being architecturally trained people, believe in long-range, integrated planning. So P/A plans its editorial programs far ahead, integrating the structure of the magazine's contents with the needs of its professional readers. For the year 1954, P/A is planning its program around a simple, but all-important theme:

architecture for these changing times

Architecture for 1954 will be influenced by — in fact, produced by — certain social, economic and technical factors of our own time. P/A plans, month by month, to isolate those factors, and to study the buildings and the building types which they have produced. Thus the important and influential buildings that the magazine presents to you each month, and the technical discussions in the Materials and Methods articles which accompany them, will all be related to the background from which they spring. The series of issues which we plan are described in brief at the right.

All the regular features of P/A will be continued in 1954, covering every phase of architectural practice. You will get, each month, the Newsletter, Gutheim's new Washington Perspective, Progress Preview, Interior Design Data, It's The Law, Out of School, Spec Small Talk, Selected Details, and my own P.S. column.

In January a series of Historic American Buildings presentations will begin. Structures which have influenced technical or esthetic trends in the United States, will be selected and presented with the assistance and cooperation of the Society of Architectural Historians. Also beginning in January, P/A expands its Office Practice section — regular monthly articles on business problems, office routine problems, public relations, and legal matters.

PROGRESSIVE ARCHITECTURE stands for progress in architecture in 1954, as in every year. We recognize our responsibility to the largest architectural audience any magazine in the world has ever had. Our theme for the year, then, is appropriate:

architecture for these changing times

Thomas H. Creighton

JANUARY

This issue will set the theme for the year, and will be devoted to a look at the year ahead — P/A's annual PREVIEW of design trends, business prospects, and engineering advances. In addition that issue will announce the winners of the DESIGN AWARDS PROGRAM.

FEBRUARY

Effect on architecture of changing living habits. How have today's buildings — houses, apartments, other living structures — been influenced by the way people live today?

MARCH

Effect on architecture of more leisure hours. How many buildings — familiar building types and new types — have been influenced by today's greater possibilities for recreation?

Here are the subjects of the twelve issues of P/A that you will receive in 1954. It is possible that more detailed planning, as the year goes on, may require a change in the months in which some of the topics are presented.

APRIL

Effect on architecture of higher educational levels. How does the increasing ratio of educational levels to population figures affect the design of various building types – for children, and for adults?

JULY

Effect on architecture of improving health care. Health care is improving, but hospital construction is lagging. How important to your practice are other health facilities, insurance plans, clinics?

OCTOBER

Effect on architecture of improved materials. What should the profession do to direct, aid, utilize developments in building products? What results are useable from research – government, university private?

MAY

Effect on architecture of growing obsolescence of buildings. Our physical plant in many building types is obsolete, should we remodel, redevelop? What are the business prospects – the design possibilities?

AUGUST

Effect on architecture of cultural values. Churches are growing in membership; there is a turn to the arts and cultures; people want good books. How will this affect the design of buildings, and business prospects?

NOVEMBER

Effect on architecture of expanding commerce and industry. What results in design and business prospects have come from the business boom? What is happening in commercial work, industrial construction?

JUNE

Effect on architecture of new structural concepts. Will our building forms really change with new structural knowledge. What changes that can be documented have already taken place?

SEPTEMBER

Effect on architecture of greater mobility. Will motels replace hotels? How important to architects is the highway program – how about gas stations, restaurants, drive-ins, shopping centers, parking facilities?

DECEMBER

Effect on architecture of environmental control. How is the design of buildings being changed by new methods of heating, cooling, conditioning air; by acoustic control, by advanced lighting methods?

P/A's readers are also its contributors, and its best-qualified critics. This program can be carried through only with your continued support, contribution and suggestion of material, and critical readership. We solicit them and we again thank you for bringing the magazine so far ahead of the field in circulation and readership.

How to pick the correct walls for the buildings you design

If you are designing a building, you can pick the correct wall by matching the function of the structure against the Robertson Q-Wall products shown here. These modern walls save construction time and money and give many extra years of maintenance-free service. They can be demounted and reused to keep pace with plant expansion. Q-Walls weigh less than 1/16th of the equivalent masonry wall.

1. Galbestos. Ideal for standard industrial plants. Galbestos has the highest resistance to corrosion and weather of any protected steel siding or roofing you can specify. For mill buildings, warehouses, or any other industrial structures that do not require full insulation.

2. Insulated Galbestos. Perfect for a dry-occupancy industrial building that must be heated. Non-combustible insulation is installed on the job by the Robertson *Top-Speed* fastening method, and Galbestos applied over. Its heat transmission factor (U-Value) is 0.16 BTU per sq. ft. per hr. per degree of temperature difference, F.

3. G-Type Q-Panels. This is a *field-assembled* wall made up of an interior steel vapor barrier, a layer of incombustible insulation, and an exterior of tough, long-lasting Galbestos. The proper combination for an industrial situation which requires both temperature and humidity control. U-Value—0.16 BTU.

4. Q-Panels. A quickly erected, *factory-assembled* panel combining strong, dry, lightweight construction with architectural beauty. Well adapted to air-conditioned buildings of all sizes, and obtainable with various exterior surfaces, either metal coated steel, stainless or aluminum. U-Value—0.16 BTU.

5. H-Type Q-Panels. Differ from standard Q-Panels essentially in that they contain twice as much insulation. Ideal for cold storage warehouses, refrigeration plants and structures subjected to Arctic conditions. U-Value is 0.08 BTU. Write for complete details.

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Offices in All Principal Cities World-Wide Building Service

out of school

(Continued from page 184)

(d) the reallocation of political subdivisions, including voting precincts, resulting from urban expansion

(e) the economic and special impact of large scale industrial expansion upon metropolitan areas and the implications of those developments in problems of planning

(f) urban redevelopment and physical planning studies

(g) population and housing data (Handbook) for New Orleans.

The principal contribution to planning work at Tulane comes from the following:

(1) The Urban Life Research Institute

(2) The Department of Sociology, Political Science, and Economics

(3) The College of Architecture

(4) The School of Social Work

(5) The School of Medicine

(6) The College of Law

BUFORD L. PICKENS, Director
College of Architecture
Tulane University
New Orleans, La.

•

Dear Mr. Feiss: As the editor of the OUT OF SCHOOL column, appearing in P/A, you are in a position to help the student, even with a sly dig at "Thelme U." and the "Skyhook Corporation." It was upon reading your column that I decided to write to you and ask for your aid in telling me where I might locate some information.

I am a fifth-year student at the University of Texas. During our last semester we write the program and design a building of our own choice. I have chosen a Desert Resort Hotel for Reno, Nevada. I have written for various brochures and pamphlets from hotel associations and product manufacturers, but I can find no information concerning facts about games that might be found in a Casino in that state. This information is what I need and I wrote hoping that you might be able to tell me where I might write to procure such data.

Any information would be certainly appreciated. A. W. MODRALL
Austin, Tex.

Dear Mr. Modrall: *Since I know of no standard source of material of the kind which you are requesting, I would suggest that you request travel funds from your University to make a special study of the type with which you are concerned at Reno, Las Vegas, and Tijuana. I have always said that there is nothing like first-hand information.* CARL FEISS

•

Dear Mr. Feiss: In May 1952 P/A a citation from a letter you had received from Alec McLaurin, dealing most effectively with certain aspects of the current education of embryonic architects, has been called to my attention. My comments may be a little late in coming but I believe they are quite as pertinent now as they were a year ago.

In the course of his remarks, however, McLaurin refers to "old Professor X bumbling along with his history course" and sustains his right "to come out with his outrageous hypotheses, now and then, without being talked into line by a majority staff, etc."

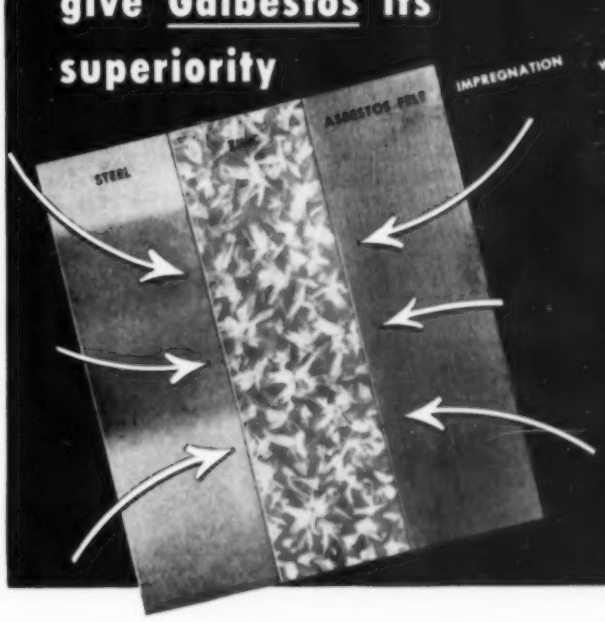
I suggest that Professor X, in view of his weighty qualifications, is worthy of a more respectful approach. His vantage point of years has persuaded him of the mutability of human values and the unsubstantiality of the most plausible theories. He is no maudlin sentimentalist but a gentleman and a scholar, open-minded and willing to test the potentialities of the most outrageous hypotheses. Professor X is a person to ignore at your peril.

He alone possesses the detachment and perspective and the seasoned seamanship to navigate new currents without being swept fatuously into their fascinating vortices. He has boxed the compass of history and enjoys the presbyopic vision to see events in their true scale. He has tasted of Enoe and Lethe and knows that any good historian must seek the most mellow blending of their waters and imbibe them in moderation.

Professor X is perhaps the only member of a contemporary faculty who is keenly aware that Architecture existed before the 20th Century—and who real-

(Continued on page 190)

How molten metal helps give Galbestos its superiority



Robertson Galbestos has the greatest resistance to weather and corrosion of any protected steel roofing or siding obtainable anywhere. This position of broad superiority is made possible by a unique manufacturing process exclusive with H. H. Robertson Company.

First, the steel sheet is pickled . . . then given a coating of molten zinc. Asbestos felt is then pressed on so that as the molten metal hardens in cooling it grips the felt fibers in absolute bond. The asbestos is then impregnated with a special asphaltic compound and, finally, given a tough weatherproof coating. Galbestos can be furnished flat or in the 3 well-known corrugations: Standard, Mansard, and V-Beam. The resultant material is so durable, it may be sheared, bent, rolled, crimped and riveted in the field as easily as ordinary unprotected steel. It will withstand the greatest possible extremes in weather temperatures without deterioration, and will actually retard fire better than naked steel. For an industrial roofing or siding that requires no maintenance under the most severe corrosive conditions, specify Galbestos.

Long Service Life. Galbestos will give longer maintenance-free service under the most severe weather and man-made corrosive conditions. Even salt air cannot penetrate its tough coatings to destroy the steel core.

Not Fragile. Galbestos' strong steel core sheet guarantees against breakage—during shipment or during erection.

Resists Climatic Extremes. Galbestos is not subject to damage either by tropic or frigid temperatures. Its coatings will not run under broiling sun or crack or spall in sub-zero weather.

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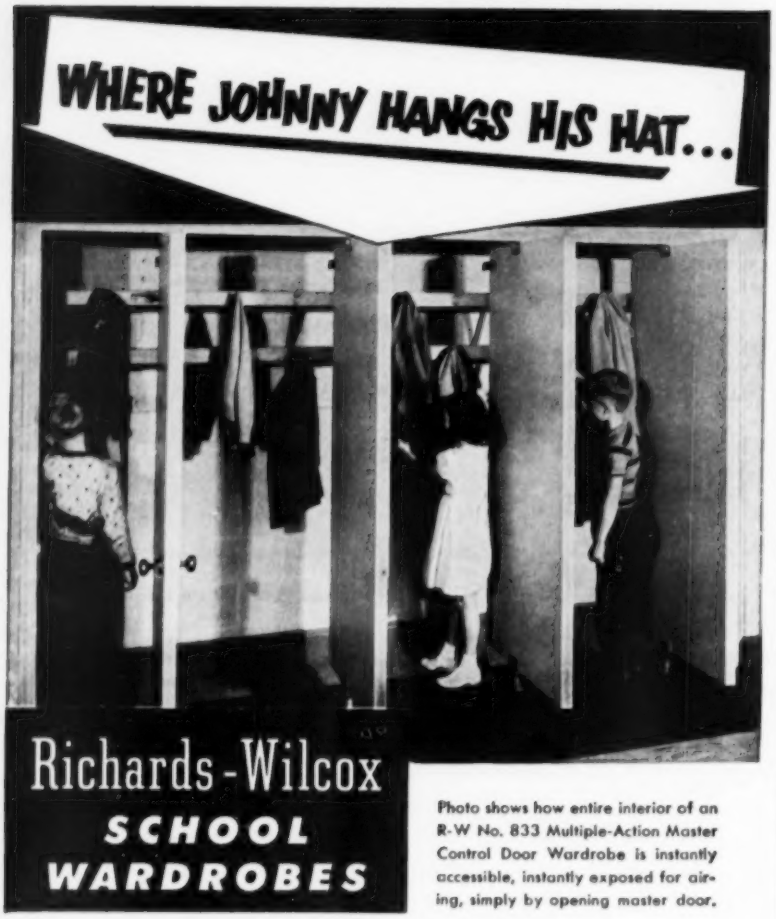

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Photo shows how entire interior of an R-W No. 833 Multiple-Action Master Control Door Wardrobe is instantly accessible, instantly exposed for airing, simply by opening master door.

We had Johnny in mind when we designed R-W school wardrobes. Johnny's health, comfort and convenience—not to mention his occasional frivolous moods—were all factors to be considered.

For instance, the problem of achieving maximum hygiene and comfort was solved by a unique system of doors. This system allows fresh air to circulate through the clothes. It helps reduce musty odors, keeps the wardrobe sanitary and allows damp clothes to dry quickly. And R-W Wardrobes have no inaccessible walls and corners. Cleaning's a snap, and they're easy to *keep* clean.

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A HANGER FOR ANY DOOR THAT SLIDES

120 THIRD STREET, AURORA, ILLINOIS

out of school

(Continued from page 189)

izes quite clearly that time has been "Marching On" for a good many millenniums.

He is not one to be tolerated, merely, but heeded. Alas for Architecture when he becomes obsolete. LAWRENCE HILL
University City, Mo.

office organization

(Continued from page 96)

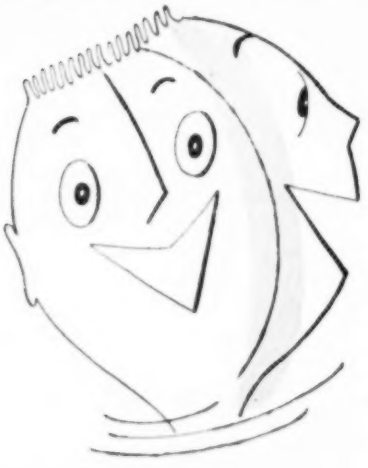
would be held between all persons having important duties in connection with each project.

vertical organization

In the vertical organization (Chart No. 3), the activities which are performed by various production and administrative departments of the horizontal organization are divided as much as feasible between the various projects. Each project may be in charge of a partner who might be assisted by a project manager and a job captain; personnel trained in programming, presentation, engineering, estimating, drafting, specifications, etc., are assigned to the project and all work closely together. Departments which are not engaged in production or administration would be maintained separately as in the horizontal organization.

The vertical type of organization may take on an even more extreme form, with what amounts to a separate office being established for one project. Even overhead expenses may be recorded separately, and the service departments of the firm may serve in almost a consulting capacity. This sort of arrangement might work well when a firm wants to separate residential work from commercial and institutional projects, for example; or it might be especially appropriate for large jobs for governmental agencies and for projects, such as Rockefeller Center or the United Nations buildings, on which several firms collaborate.

On the other hand, many architectural organizations are the result of wise compromises between the two basic organizational methods described and charted. The important thing to note is that changed procedures and increasing responsibilities make it ever more necessary for the architectural firm to be competent and business-like in the handling of its own affairs and the affairs of its clients.



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p/a reviews

books received

Power in Buildings. Hugh Ferriss. Columbia University Press, 2960 Broadway, New York 27, N. Y., 1953. 102 pp., illus., $8.50

Le Corbusier 1946-52. Published by W. Boesiger, Zurich, Switzerland, 1953. Distributed by Museum Books, Inc., 48 E. 43 St., New York 17, N. Y. 248 pp., illus., $12.50

The Art and Architecture of India. The Pelican History of Art. Benjamin Rowland. Penguin Books, Inc., 3300 Clipper Mill Rd., Baltimore, Md., 1953. 289 pp., illus., $8.50

Painting in Britain 1530 to 1790. The Pelican History of Art. Ellis K. Waterhouse. Penguin Books, Inc., 3300 Clipper Mill Rd., Baltimore, Md., 1953. 271 pp., illus., $8.50

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evaluating houses

Before You Buy A House. *John Hancock Callender. Authorized by The Architectural League of New York and Southwest Research Institute. Crown Publishers, 419 Fourth Avenue, New York 16, N. Y., 1953. 160 pp., illus., $2.95*

Although its eye is primarily slanted toward the Layman, this book should be required reading for the "Home Builder" (N. A. H. B. title for builders of houses for sale) and will cause many an Architect to take notice and evaluate his own work in the field.

Builder and Architect will then each bring forth a multitude of excuses for his own previous work—lot sizes, street layouts already determined, local FHA, building departments and lending agencies, excessive cost of "luxury" items upon their particular local market, and other such reasons. Unfortunately, most or all may be valid in particular cases, but this does not alter the fact that some better builder houses *are* being built in all parts of the country. And with the saturation point of postwar necessity housing being reached, the buyer is becoming increasingly more discriminating, particularly because of the publicity good housing has received in the last year or two.

This book will not only further that publicity, but definitely seems to accomplish its intended purpose of providing the small-home buyer with a guide toward getting the most livability for his money at mass-produced prices. It is regrettable that there are not more examples of good housing available in the postwar market to choose examples from. Particularly in view of the fact, as Callender states, that 700,000 to 900,000 houses are built each year for sale.

It is *true* that the merchant-built house can give the buyer a much better house per dollar spent than is possible in the custom-designed house. This can project beyond the house, as a total community environment can be produced which makes for better living than the helter-skelter construction where individual lots are sold for each buyer to mutilate.

(Continued on page 194)

Another *FIRST* by Crawford

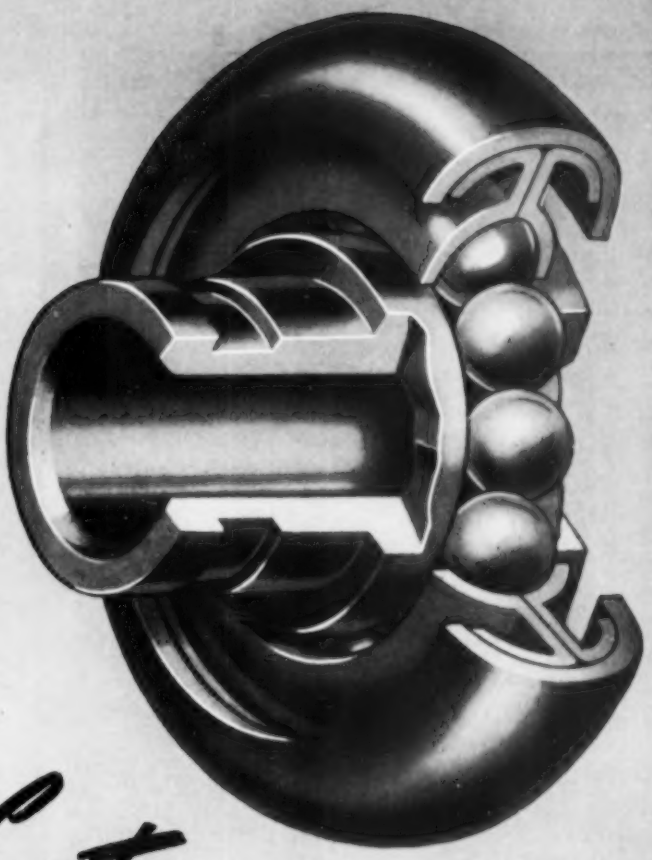
This *Zin-Cote* Plated Roller . . .

OUTWEARS ordinary rollers 2 to 1.

NEVER needs oil—bearings are plated, too.

Collects **NO** dirt.

Withstands 50-Hour SALT SPRAY STEEL test.



Zin-Cote PLATED HARDWARE

This roller typifies the quality that goes into every part of the Crawford Marvel-Lift Door.

The hard steel sleeve is half-an-inch wide, grooved to provide a raceway for ten quarter-inch, hardened, steel roller bearings.

The body is built up of two hard steel plates which enclose the roller bearings and form the outer raceway.

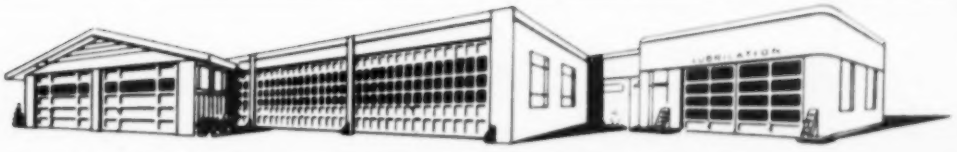
The steel tire is rolled on in one piece and never wears flat.

(Many ordinary rollers have *no* sleeve, *no* tire, and as few as *five* bearings.)

The entire assembly is made to fine limits of precision to prevent looseness and avoid running sound. The distribution of load over such large bearing surfaces spreads wear and prevents looseness. Zin-Cote Plating on *all* surfaces—sleeve, bearings, body, tire—further reduces wear. No other rollers are so well made or last so long.

Our entire product is made with equal care. You can specify Crawford Marvel-Lift Doors with complete confidence. Call your local Crawford Door Sales Company, listed in your local phone book under "DOORS." Crawford Door Co., 105-20263 Hoover Road, Detroit 5, Mich.

Crawford MARVEL-LIFT Doors



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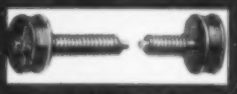
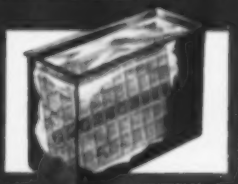


MARVEL-LIFT MECHANISM

Standard equipment at no extra cost.



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And Lowering Big Insurance Costs

In a large Eastern rolling mill, a ramp from the production floor to a storage area above was so slippery from oil and grease drippings that a fork-lift truck could not climb the incline by itself. An unloaded fork-lift truck had to push the loaded one. Already a safety hazard, the slippery ramp also caused production inefficiency.

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reviews

(Continued from page 192)

It is also unfortunate that the broad scope and coverage did not allow a more accurate study and comparison of cost, particularly of the pictured examples.

Obviously, costs will vary greatly according to the region in which the buyer lives; particularly when it comes to the inclusion of definitely "cost" items, such as terrazzo floors, thermopane windows, basement rooms, roofed and screened or glazed porches, air conditioning, etc. Most such items are prohibitive in cost for the average small-house buyer in most areas. Thus the reader of this book must canvass his particular locality, in order to determine how much his money will buy.

The use of the "Evaluation Checklist" in Chapter IX will only be completely useful if the buyer compares at least three examples, as is recommended. Here again is a stumbling block, in that, even in an area as large as Los Angeles, it is difficult to find three comparable tracts in any given locality. Regardless, the Checklist does provide a basis for settling in the buyer's mind at least how much of the ideal can be obtained for his money in available local housing.

Obviously, the point-evaluation system set-up is relative and the home buyer must make intelligent and discriminating use of the chart when adapting it to his own particular use. This same intelligent approach must be used in evaluating the illustrated examples in the book—and determining to what extent those pictured fit into his required living conditions and pocketbook. That is, many of the examples shown give the appearance of being in the low-cost bracket but are actually considerably higher in price.

One of the noticeable points of the book is the featuring of the Hollin Hills project in Virginia. For the average family, the integrated community (which includes shopping center, school, and parks in conjunction with low- to medium-priced builder houses) offers the best possible solution to this business of living within the average income.

It then seems obvious that the future

(Continued on page 196)

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This "sit-down" shower is easy and convenient for aged, infirm or handicapped.

Mothers appreciate ease of rinsing away grimy effects of children's play in a shower.

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For *all* members of the family, from infancy to old age—invalid or well—Weisway Cabinet Showers provide the most practical and adaptable bathing facilities. In the installation pictured above the seat folds against shower wall; diverter valve provides normal shower at regular shower height.

With the "growing children" combination fixture, sketched at the left, back-bending drudgery is eliminated for mother and the protective curtain keeps water inside.

Weisways bring the enjoyment of modern shower bathing to homes of every size and price class—*provide extra baths in a three-foot square or less!* Guaranteed leakproof construction . . . foot-grip, no-slip floor of vitreous porcelain enamel . . . precision manufacture assure dependable service through the years.

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Please send Weisway Catalog with detailed information.

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reviews

(Continued from page 194)

improvement of living conditions lies with the Architect, Home Builder, and an alert Home-Buying Public. This book should do much to increase the awareness of each. A. QUINCY JONES JR.

east studies west

World's Contemporary Architecture. *Germany. Volume 5. Edited by Yuichi Ino and Shinji Koike. The Shokokusha Publishing Co., Inc. Hirakawa-Cho, Chiyoda-Ku, Tokyo, Japan. 1953. 88 pp., illus., $5*

As fifth of a series documenting post-war development, Yuichi Ino and Professor Koike offer an unusually diverse photographic study of the architecture of Western Germany. Arranged according to building types, there are 30 examples chosen from Berlin, Cologne, Frankfurt, Munich, Bonn, Mannheim, and Nuremberg. German architecture since the end of World War II was characterized by the Bauhaus, neo-classicism, and nationalist influences. Now, however, many cliches and stylizations of the late Thirties are noticeably absent.

Included in this panorama of design is a garden display featured at the Stuttgart Exhibition of 1950. Woven between a light-steel frame and areas of glass and latticework are luxuriant planting beds in a greenhouse architecture of extreme lightness and delicacy. The housing development of Hamburg are frames of reinforced concrete with cantilevered administration units at the first-floor level. Included in the elaborately planned group are studios, roof gardens, and shops bordering a concourse. At Bad Godesberg, in a rural setting, two-story bachelor apartments are counterpoised strikingly against heavier vertical elements and open planted courts.

These are buildings markedly different from those of former years. Austerity slowly seems to be giving way to more human emphasis in an encouraging transition from an architecture which was imposing but not grand, decorative, but not rich, dynamic but not graceful, and classic but not timeless. R.F.

(Continued on page 198)

In This Hospital for Children
STRAN-STEEL® FRAMING

• Shortened construction time • Lessened construction costs • Assures lasting quality

The new two-million-dollar Le Bonheur Hospital for Children in Memphis, Tennessee (below), was chosen the hospital of the year in 1952. It has every modern hospital feature, including adjoining rooms for parents of sick children. Cutaway drawing shows Stran-Steel framing used throughout the corridor walls.

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Architects and engineers for this building were J. Frazer Smith & Associates of Memphis, Tenn. Harmon Construction Co., Oklahoma City, Okla., was the general contractor.

Stran-Steel Framing is a complete system, designed for schools, hospitals, garden-type apartments, industrial, public and institutional buildings. Specified by architects across the country, it has resulted in increased economy, earlier completion, and greater client satisfaction. Write to us for general details or information pertaining to a specific problem.

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reviews

(Continued from page 196)

annual guide

Heating Ventilating Air Conditioning Guide: 1953. *The American Society of Heating and Ventilating Engineers, 62 Worth St., New York 13, N. Y., 1953. 1560 pp., illus., $7.50*

Volume 31 of an annual series of Guides, this revised edition is the largest one to date, containing a 1096-page technical data section, 427 pages of manufacturers' catalog information, indices to both sections, and a separate A.S.H.V.E. Psychometric Chart. In addition to a description of the fundamentals of heating, ventilating, and air conditioning, detailed technical data covers heating and cooling loads, human reactions, combustion and consumption of fuels, systems and equipment, instruments and codes, and special systems. This reference material is based on the transactions and investigations of the A.S.H.V.E. Research Laboratory and co-operating institutions and the practice of Society members. B. L.

down to earth

Public Grounds Maintenance Handbook. *H. S. Conover, Landscape Architect—Site Planning Section, Division of Reservoir Properties, Tennessee Valley Authority, Old Post Office Building, Knoxville, Tenn. 1953. 495 pp., illus., $5*

As a result of several years of trial and error in the Tennessee Valley Authority project, this maintenance manual will be of equal interest to architect, landscape designer, and the green-thumbed home-owner. Many of its pages contain "do's and don'ts" (in analytical form) about pruning and planting, from pest prevention to seeding Rhododendrons and controlling the Rhabdophaga Slaicis, the yellow European jumping maggot.

The compiled notes were those formerly given to maintenance crews working on the public grounds surrounding TVA dams and powerhouses. Proving valuable both as a guide and reference, this paperbound volume is now republished to combat many of the problems on the American scene. Painlessly interspersed are elements of biology, plant

(Continued on page 200)

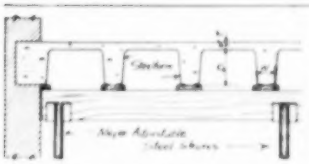
Ceco-Meyer Steelform Service cuts costs 11% . . .

Ceco-Meyer Steelform Service was used in these 3 buildings

Economy in building is important, even to a great institution. So, when Schmidt, Garden and Erickson, Architects, designed three units of a medical center in Chicago, several methods of constructing floor systems were studied. Ceco-Meyer Steelform Service was selected because it offered definite savings. But let them tell the story.

"We made an analysis of several types of construction," say the architects, "including slab-beam-and-girder, solid slab and several others. When the figures were on paper, concrete joist construction showed a saving of 11% in the concrete frame. Ceco was selected to provide Meyer Steelform Service. J. W. Snyder Company, General Contractor, made the indicated savings realistic."

"To complete a major hospital job on time," says Constructor Victor Snyder, "there must be close cooperation between architect, constructor and a supplier who understands our joint problems. Such a firm is Ceco . . . their construction knowledge in the field, and ability to perform, got them the job."



cross section *Less steel, concrete, lumber, labor with Ceco-Meyer Steelform Service.*

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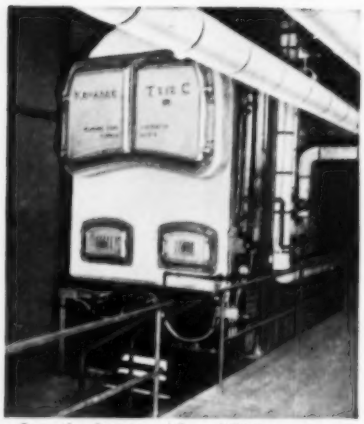

One of a Battery of Type "C" Kewanees in The Hecht Company Store, Arlington, Va.

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In designing and equipping their "Parkington" store, The Hecht Company applied its vast retailing experience to provide the utmost in shopping convenience and comfort. Modern features include 127 complete departments; air conditioning; high speed elevators and motor stairs; fluorescent lighting; accoustical ceilings . . . and for the important job of heating . . . Kewanee Boilers.

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Division of American Radiator & Standard Sanitary Corporation
KEWANEE, ILLINOIS

reviews

(Continued from page 198)

diseases, and erosion control techniques—long the gospel of the Department of Agriculture.

Most of the charts and analyses for the control of an infinity of insects are excellent. In combination with passages on soil conditions and those esoteric skills of pruning and grafting, it is a full and informative study for architect, landscaper, and aphid asphyxiator alike. R. F.

processes explained

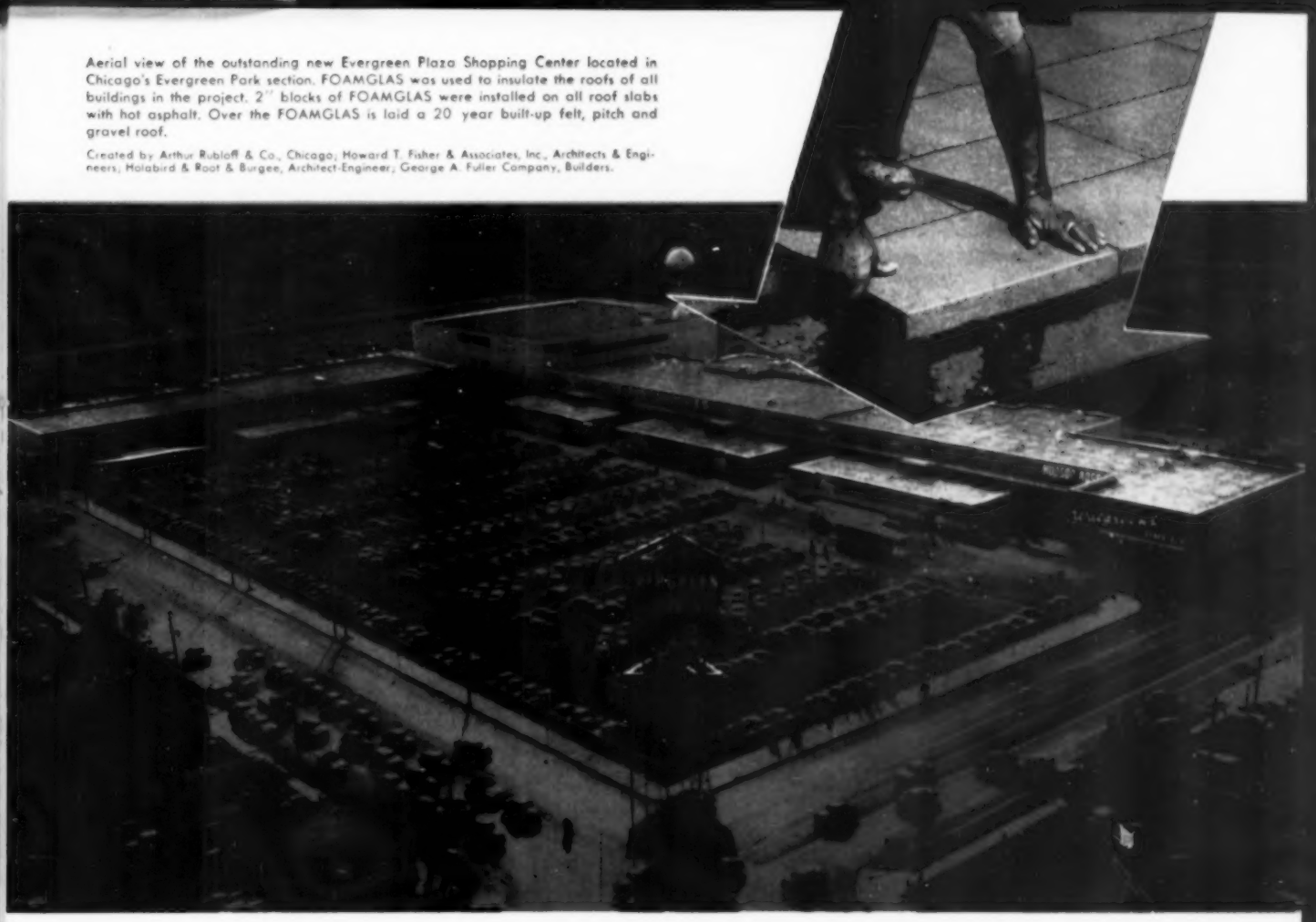
Welding Aluminum. *Distributed by Reynolds Metals Company, 2500 S. Third St., Louisville 1, Ky., 1953. 186 pp., illus.*

Enlarging upon the first edition of this manual which was published under the same title by Reynolds in 1946, the present edition contains descriptions of 34 processes suitable for welding, brazing, and soldering aluminum and its alloys. The book contains 35 tables, the majority of which are devoted to detailing machine settings and exact welding procedure for the various processes. In addition, a master chart shows the relation of these processes to one another and indicates those most widely used. A second chart breaks down the wrought-aluminum alloys and shows joining methods suitable for the various alloys, while a third covers the aluminum-casting alloys in a similar manner. This manual is available without charge to any engineer, designer, technical man, or company executive requesting it on company letterhead. B.L.

notice

professional forum

Beginning October 13, the Department of Architecture of Pratt Institute, Brooklyn, New York, will sponsor a forum series on Radiant Heating and Cooling. This six-week series of conferences (Tuesdays at 7:30 P.M.) will be devoted to the co-ordination and development of current design principles and progress in research. Free to architects, engineers, manufacturers, contractors, students, and interested public.



Aerial view of the outstanding new Evergreen Plaza Shopping Center located in Chicago's Evergreen Park section. FOAMGLAS was used to insulate the roofs of all buildings in the project. 2" blocks of FOAMGLAS were installed on all roof slabs with hot asphalt. Over the FOAMGLAS is laid a 20 year built-up felt, pitch and gravel roof.

Created by Arthur Rubloff & Co., Chicago; Howard T. Fisher & Associates, Inc., Architects & Engineers; Holabird & Root & Burgee, Architect-Engineer; George A. Fuller Company, Builders.

"We can count on FOAMGLAS insulation . . .

Willard A. Brown
Managing Director
Evergreen Plaza Shopping Center

". . . to help keep our heating and cooling costs lower year after year,"

reports Willard A. Brown, Managing Director of Chicago's new Evergreen Plaza Shopping Center. He explains: "Placing insulation on the roofs of our center was imperative to keep down our heating and air conditioning costs. We chose FOAMGLAS for our roof insulation because it assures us constantly high insulating efficiency *year after year*."

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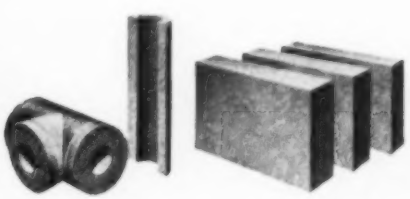

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housing in mild climates

(Continued from page 203)

problems of shelter are rarely intensified to the question of "to be or not to be." The objectives have been worth an effort even to early man. I believe they are best enumerated in this order:

(1) Shading against heat and light radiation.

(2) Shelter against frequent, sudden and/or copious precipitation.

(3) Allowance and provisions for the welcome, quick heat-loss by co-operation of a million sweat droplets secreted by each pore of the skin.

(4) Possibly a barrier against heat intrusion from the outside, by nonconductive enclosure. This latter is clearly a thought introduced from dry, hot, desert climates. It is a thought imported by colonizers like the Spaniards, who succeeded in dressing the natives after their own example and housing them in the masonry towns of Spanish colonies—with window shutters closed.

The *means* in this vast assembly of tropical/subtropical regions seem, in some respects, even more diversified than the Nordic sheltering means. A more localized knowledge from place to place, from mainland to island, is needed. And it is comparatively easy to gather in this zone of the fairly stable trade winds.

Considerations for realizing warm climate shelter are:

(1) The roof in the tropics is more important than the walls;

(2) Even walls, if they are required visually, may have to be screens, pervious to air currents but not to wind-driven precipitation; and

(3) Thick-walled masonry and caves are good only for high-thermal climates with low-moisture content. Even there, they are physiologically precarious, as when a sweaty desert man enters a cold cave. Such caves, however, have been used advantageously as storage for perishables and as tombs.

•

Generally, one can say that in tropical countries there is an indigenous disregard for any sharp boundary between indoors and outdoors—a boundary loosely defined by the outer edge or eave of the roof overhead. In many cases, privacy is

(Continued on page 206)

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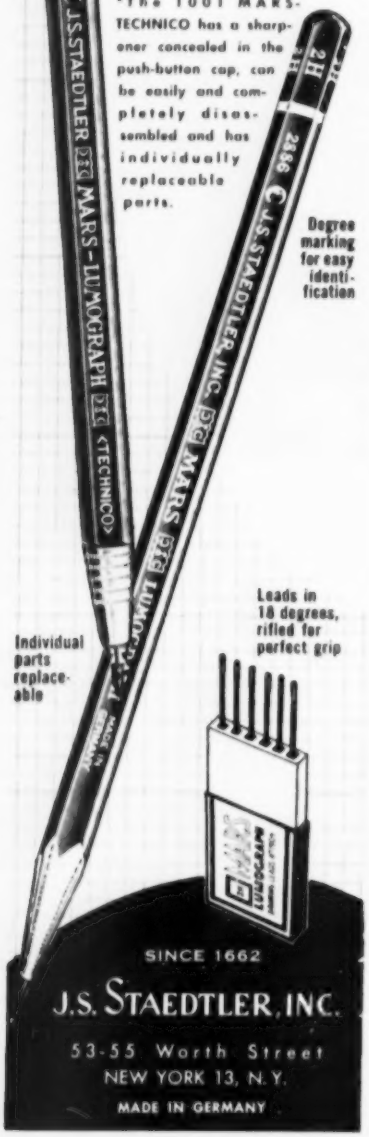

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housing in mild climates

(Continued from page 204)

a less pronounced idea than with us; hardly more than visual and less worried about than the urgent requirement of air change. Moist heat produces a languishing indifference to privacy even in Europeans when they move into the tropics, and their prudishness dwindles markedly under the impact of feeling quite uncomfortable when enclosed under these physiologically different circumstances.

Different from the Nordic situation, the individual dwelling is in this climate a psychological counter provision that opposes a daily opportunity of seeing a crowd of people in perpetual routine assembly outdoors. As a matter of fact, most craftwork and household activities are pursued, in plain view of everybody, in front of the huts all year around. Thailanders would, where the "Klonks" widen, jam the canal waters with boats, trade, and converse with the people on the porch-platform dwellings. Independent of seasonal change, humanity is in a continuous shindig which *is* the neighborhood, so to speak, except when an individual happens to lift a reed curtain to disappear for a moment in the "interior" of his abode.

Again, opposed to the Nordic feeling that the assembly is something out of the ordinary, festive, something *occasional* with a proportionately strong accent, warm-climate men and women are not especially conscious of what to them, as mentioned, is perpetual routine. Whenever assembly is intended as something extraordinary, it has to be made so by the special means of dance, attire, masks, feathers, drums, and picturesquely ordered configuration of the attendant mass. Under the circumstances described, the large hall or "assembly temple" hardly ever occurs in lesser latitudes, and was not known even to the high culture of the Greeks. It is a Nordic idea and where it is found *south* is an import from a Nordic phase of the "cultural oscillation," timed between and according to glacial periods over vast geographical stretches.

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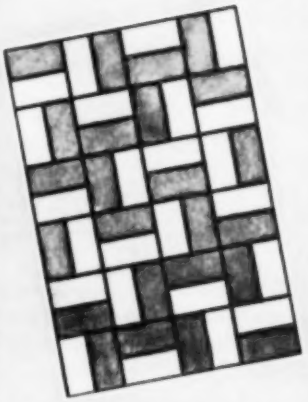
The human abode, the family dwelling, can never be fully understood by itself.

(Continued on page 208)

tiles by SPARTA



Spartan Ceramics are made in a variety of ceramic mosaic colors and sizes to meet a wide field of suitable uses. Above is illustrated Design No. 130, indicative of an inviting range of color designs in low cost

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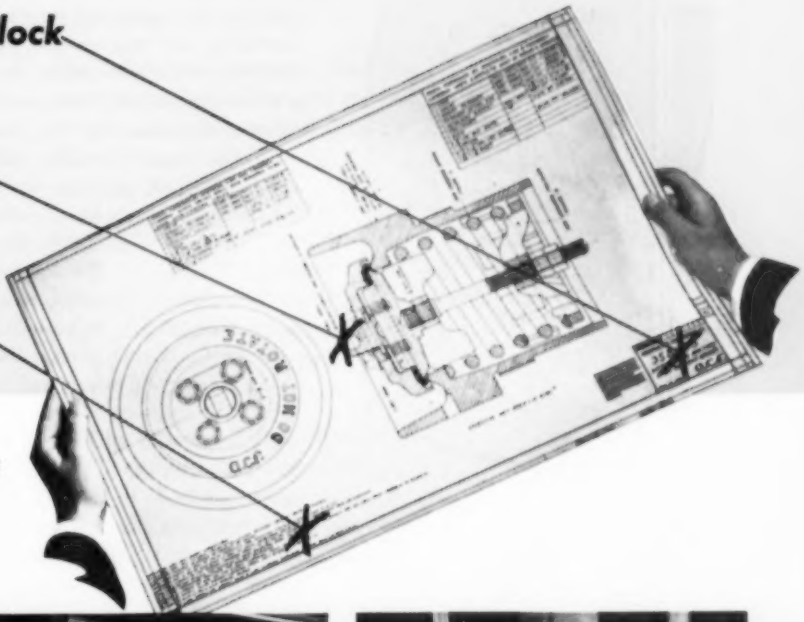
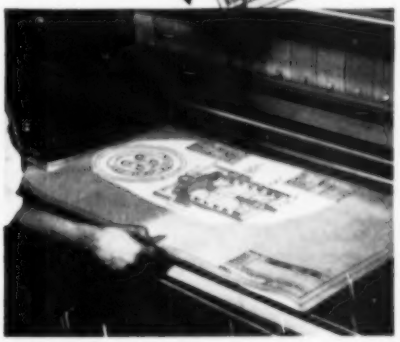
without one line of retracing

- *substitute new title block here*
- *transfer design to cloth*
- *delete shop notes and lot numbers*



The American Car and Foundry Company, at its Milton, Pa., plant, has to modify hundreds of drawings like the one shown here to meet Army Transportation Corps requirements. Retracing would be much too slow . . . much too expensive. But how else can the job be done? *Kodagraph Autopositive Materials are the welcome answer!*

First—a positive photographic intermediate is made without a negative step by reproducing the original paper drawing on Kodagraph Autopositive Paper. *A fast room-light operation consisting of exposure in a standard print-making machine . . . and processing in standard photographic solutions.* The A.C.F. title block and shop notes are "scissored out" of this print . . . only the essential design remains.



Next . . . the Autopositive cutout of the design area is positioned under a Kodagraph Autopositive Film print, which is a re-usable master containing only the Army Transportation Corps title block. Then this composite is reproduced on a sheet of Kodagraph Autopositive Cloth—the same simple operation as was used previously for processing Kodagraph Autopositive Paper and Film.

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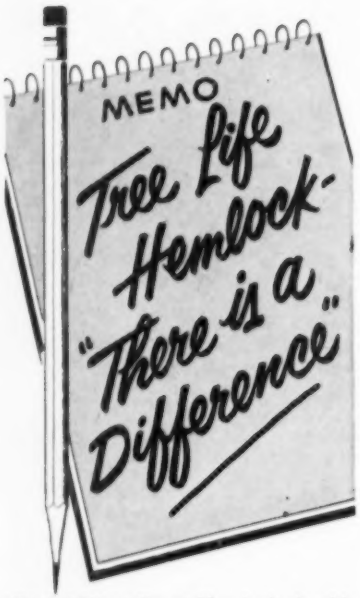

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housing in mild climates

(Continued from page 206)

but only by contrast to, and by an appraisal of, something external to it, something that supplements its social significance from the outside. In this respect, the thermal and, more generally, the climatic differences over the earth have specifically shaped dwelling satisfaction in technologically primitive situations.

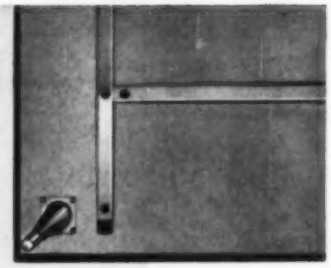
Habituation and tradition in this matter work on man especially in the plastic stage of infancy, and thus carry over into the quite different situations of advanced and industrialized technology, which could artificially overcome at least some of the physical differences and—by commercial, or let us say by even more intrinsic economic reasons—tend toward standardization. This tendency of unified industrial supply to "blanket the globe" is, however, for a long time to come, and over vast areas beyond the seas, restricted to the consumership of smallish upper-crust groups, when housing is considered. Perhaps even in 500 years "weathermaker installations" for all interiors will not be standard in the teeming moist-hot tropical countries; while they might well become the very basis of fresh migration to the so-scarcely settled arctics.

•

To return to the subject of warm-climate housing—we should note that it is confronted by not-yet-mentioned complicating factors. Some of these even conflict with each other and with the chances of applying advanced technology, which ultimately *must* offer contemporary solutions.

The first circumstance that meets the eye of the traveler in many warm and hot countries is an abject, comparatively neolithic poverty, which seems in intimate and direct ratio to the prolific birthrate—made increasingly severe by advances in sanitation and active health service which diminish the earlier appalling death rate. Our industrialized technology and our system of distribution have had little practice and training under such conditions—and hardly offer anything palpable, short of downright subsidy. A *tropical isle* in the South Seas or in the Carribean is not merely a climatic con-

(Continued on page 210)



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(Continued from page 208)

cept, but equally an economic concept. Where the true tropics stretch, natives receive 10 cents as a day's wage, or something on that order. Trade unions and purchasing power are scarce around insular phosphate mines, among Cobra shredders, sugar-cane laborers, pearl fishers, and rubber plantations. Packaged progress and parcels of small prefabrications, canned goods, printed calico, and bottled synthetic drinks are more easily shipped and introduced than are contemporary dwelling units.

There are further factors prevalent in warm-climate areas which are now much more subject to technical treatment and solution than ever before. Violent high winds, typhoons, and hurricanes are no more beyond the fully applied powers of the modern structural engineer than they are beyond the calculations of the contemporary designer of seafaring vessels. But such solutions are expensive and have to be weighed against alternatives that modern techniques offer. There are other influence factors of the first order which come into play. Housing and ocean traffic alike may now be greatly affected, as to determinants of construction of vessels and homes, by the much advanced meteorological report service from planes of the board of weather observation. Typhoon alarms now give at least 24-hour leeway, and lives in an entire village may be saved by a few reinforced-concrete typhoon shelters or sturdily constructed double classrooms of the local grade school: a high-wind shelter which serves many purposes, such as assembly, visual education, etc. It will therefore not be necessary to spend millions of dollars to make all dwellings typhoon-proof, burdening a capital improvement program or budget with, as yet, unbearable expenses.

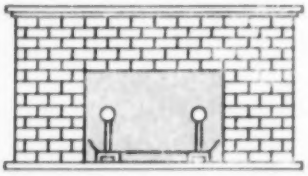
There is no actual use for typhoon-proof model housing that is anyway inaccessible (economically speaking) to the vast majority of populations, which through all known history have never combatted the terrible natural forces but rather have yielded to them. Abodes have always been constructed from materials of lightest weight—with resignation offered up to occasional destruction. Their components and debris, flying through the air, have been comparatively harmless to the villagers, and reconstruction, with all hands and traditional skills enlisted, has taken place swiftly. Similar considerations held true for fires and for earthquake damage, so recurrent in certain areas. Full renewal seemed to be the answer, rather than elaborate and never fully mastered means of resistance.

•

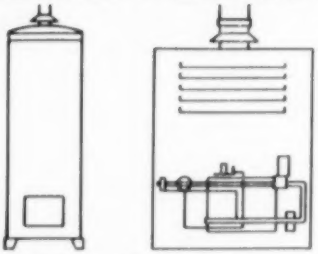
Only contemporary techniques, especially the transportation of materials, reinforcing steel, cement, etc., over thousands of miles, have made it possible to plan for resistance; *basically* changing the structural character of housing from the native types. Mostly, however, these improvements have so far benefitted only foreigners who settled in these regions,

(Continued on page 212)

FIREPLACE



OR GAS APPLIANCE



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- inner hot stack carries off vent gases without condensation
- cooler outer pipe protects surrounding walls
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- easy, fast installation with quick couplings and adjustable fittings

For the best venting job, always specify METALBESTOS—the insulated vent

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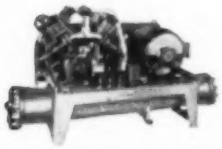

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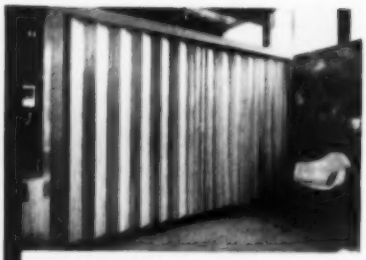

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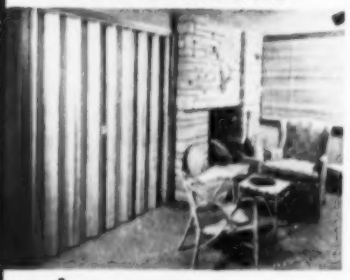

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RA-TOX FOLDING DOORS

housing in mild climates

(Continued from page 210)

rather than the indigenous population which remained way below the economic level of the mentioned new practices. Such new practices and imported materials are also concerned, for example, with insect intrusion into the human shelter, and protection against this nuisance. Natives sometimes have simply developed a tolerance, more rarely an immunity from insect bites. But with the recognition of certain insects as carriers of a number of blood infections like malaria, or more commonly of gastrointestinal afflictions from defilement of food, rolls of insect screens, fabricated fine-metal mesh, etc., began to emerge from the holds of ships. Termite-proof materials and toxic chemicals to fend insects also became part of building specifications.

Among all the complicating factors which have entered the problem of housing in warm climates, the immigration and settlement of strangers is perhaps the most difficult to cope with. Not only do these strangers lack native immunities and inborn physiological fitness or resistance to the climate; moreover they are the importers of traditions, customs, and habits that are *unfit*, yet are expressed and perpetuated in a structural and formal style of dwellings full of harm and waste. Nevertheless, from the time harm and waste. Nevertheless, from time of Columbus, attire and modes of dwelling have been recklessly misfitted and, through the prestige of the newly arrived masters of the scene, accepted and even avidly embraced by at least the upper-crust natives. The misfit to local nature became the symbol of social standing in the mixed community and was often strangely compounded with ancient superstitions—for instance, the nightly closing of the few window openings in new-fangled masonry row-houses, against evil night spirits. It would be interesting to trace, in cultural mixtures of mankind, the longevity of misunderstood and misappropriated elements.

•

While the tropics of the future undoubtedly will be much less outside the pale of contemporary civilization than they were during the Victorian era of colonialism, the subtropic areas, such as California,

(Continued on page 214)

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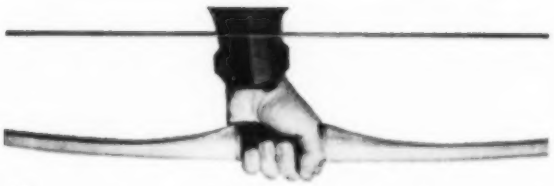

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housing in mild climates

(Continued from page 212)

have in our own time begun to make significant, even revolutionary, contributions to dwelling culture. Public housing regulations, imported from the "Central Office" in cold-winter Washington, memories of the new settlers (brought along from Nordic Europe or the Eastern states), have caused trouble for the Californian pioneer in residential accommodation. On the other hand, it is perhaps the first time in history that Nordic technical skills have been brought to exfoliate in genuine mild-climate applications. The resistance to such logical applications is not intrinsically rational, but habits formed from explicable, though not "natural" beginnings, may dominate a subsequent ideology or practice, as if these were organic consequences to life in the particular thermal region.

Structural types in the warm-climate areas, as elsewhere, are the outcome of *natural determinants*, which extend from the miles of air mixture over our head into the minute properties of the human brain, on which responses, conditionings, habits, and traditions depend. Pafford Keatinge Clay, a younger colleague who has had experience with dwelling design for warm-climate areas has summarized his findings as follows:

"In the mild climate the buildings, like the people, can be lightly clad. Apart from the necessary rigidity of the structure, walls and open spaces take on a different meaning.

"Where shelter from the severer elements is centralized and characterized by the hearth, shelter in the milder regions can be dispersed and characterized by the sliding wall.

"If modern life is not too complex in its demands, we can learn the lessons from Japan and also use frame construction and the mechanical core to our own advantage in freeing the rest of the house to a more pavilion-like relation to the natural setting.

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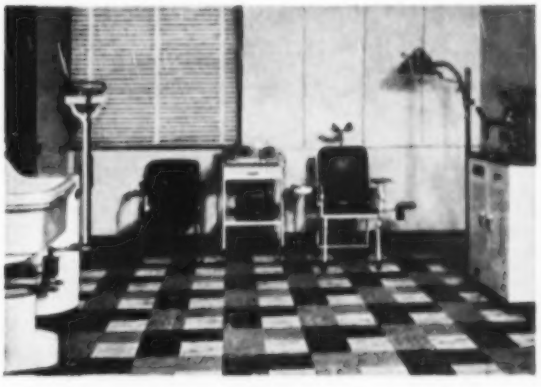

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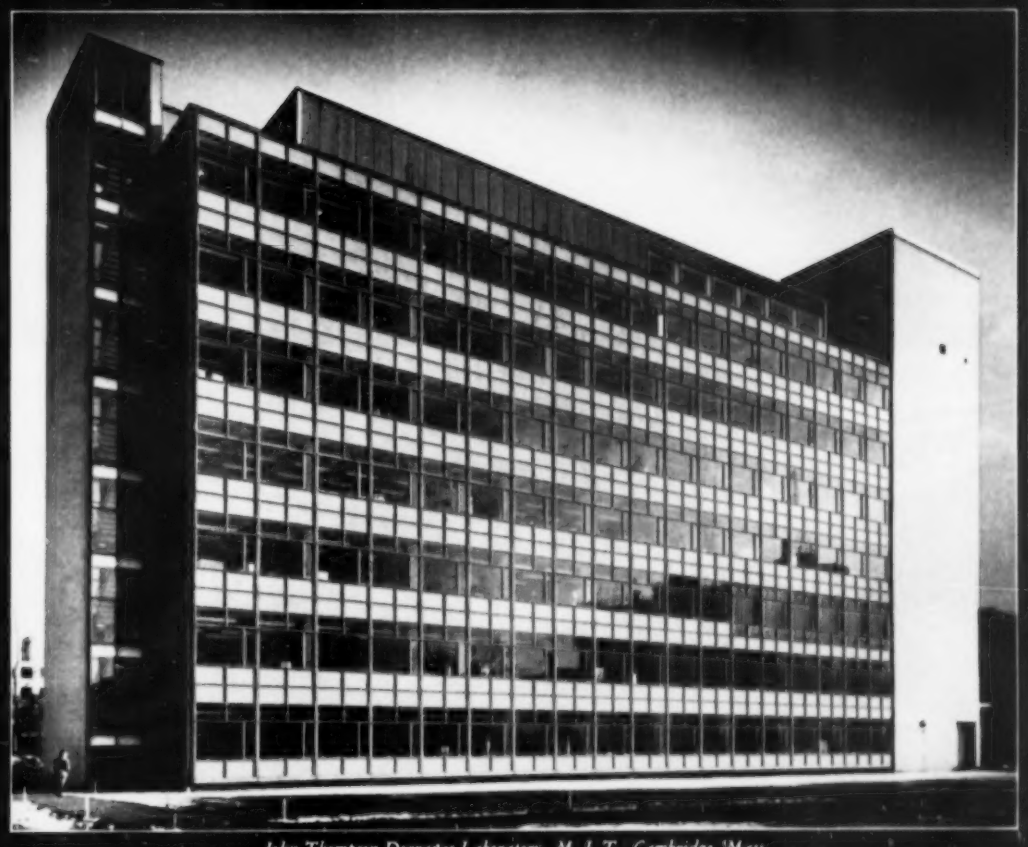

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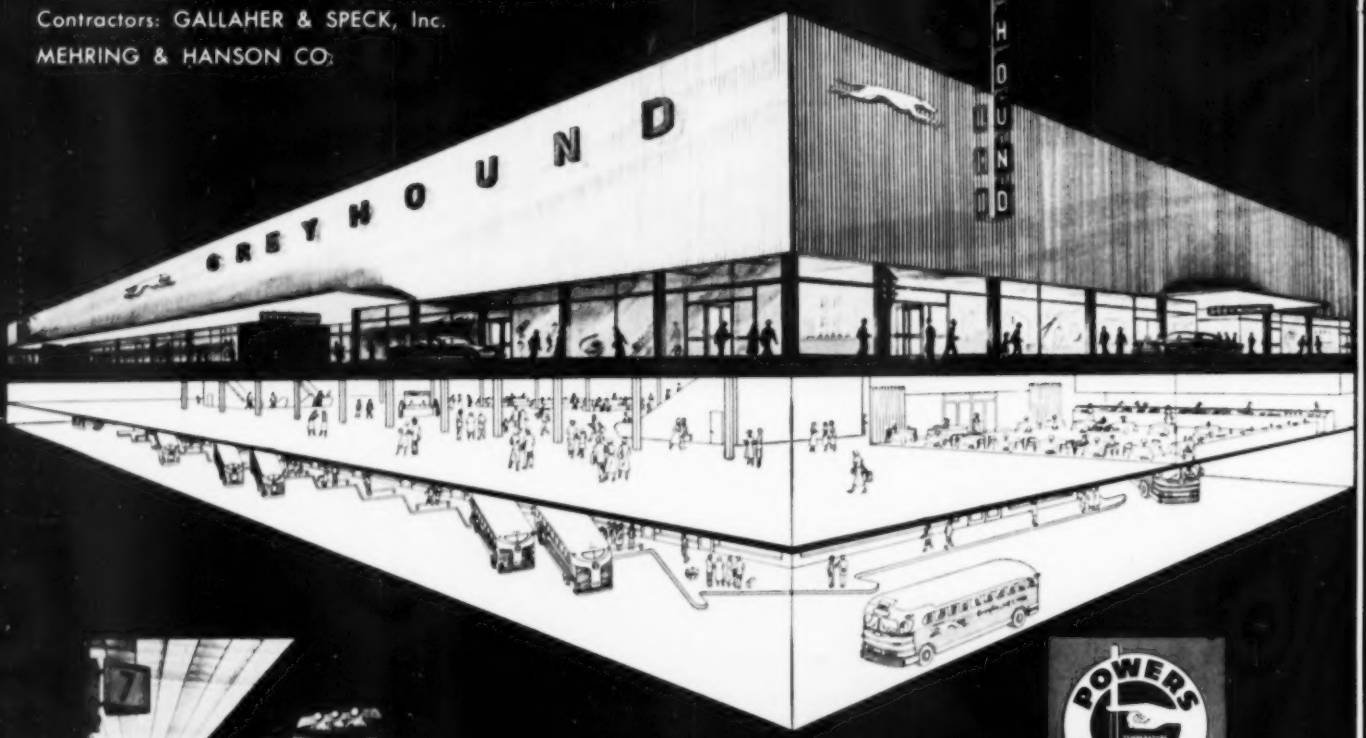

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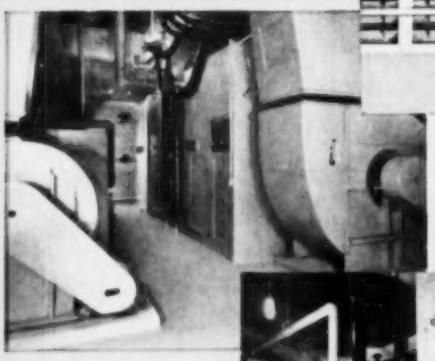

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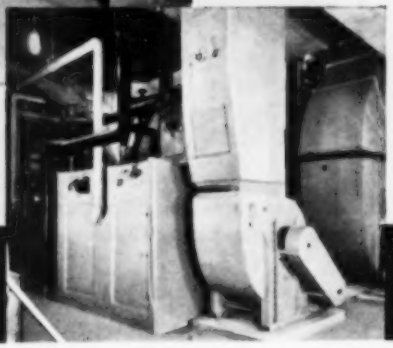

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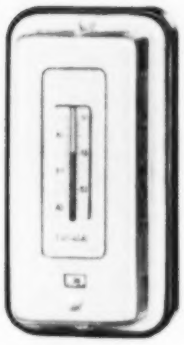

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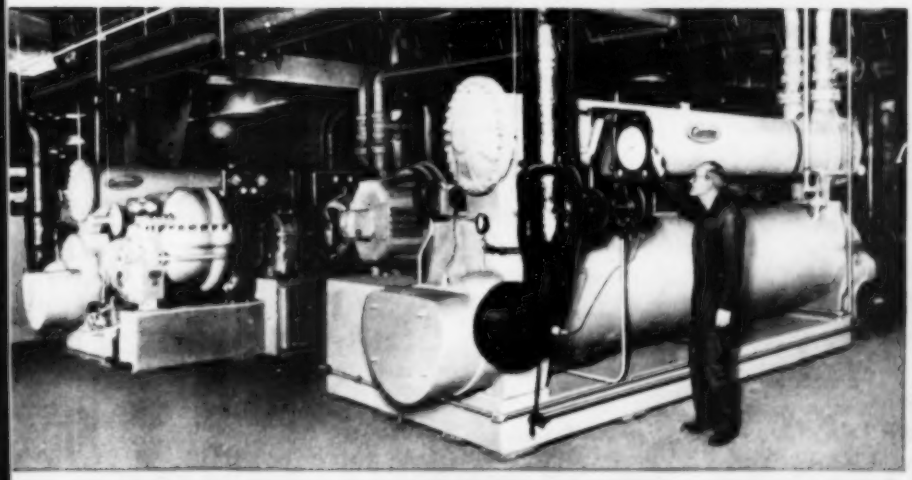
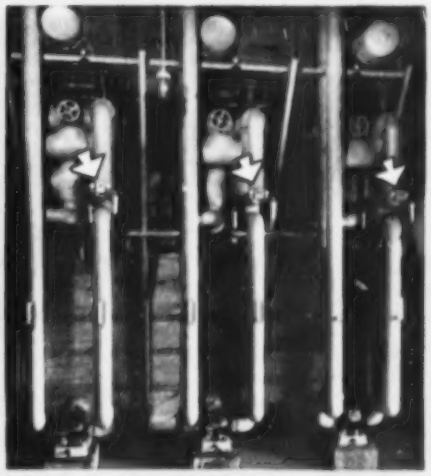


Mr. Henry Burckert, Chief Engineer inspecting one of the two Powers Series 100 Recording-Controllers on two Centrifigul Refrigerating Compressors (610 Ton Cap.) supplying chilled water for air conditioning.



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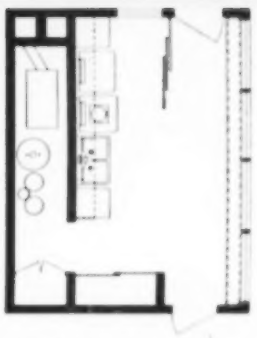

Big usefulness in small space. Notice how spacious and uncrowded this Crane utility room looks. Yet here are all the usual utilities plus beauty and usefulness that most utility rooms lack—and in space that measures only 14'4" x 11'10". Design by Arthur A. Gorrell, Carlsbad, New Mexico, as an entry in Crane's National Architectural Competition.

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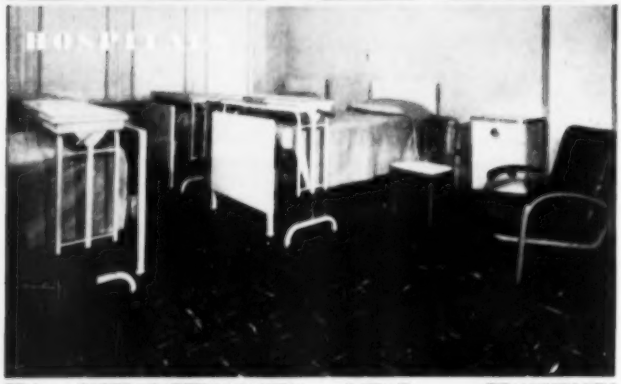

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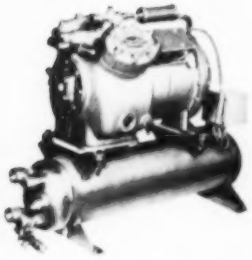

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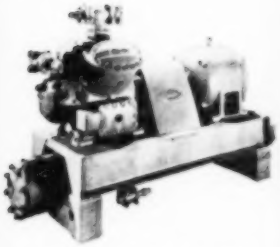

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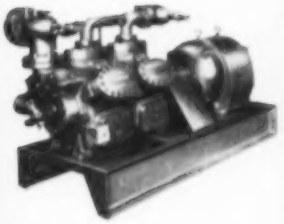

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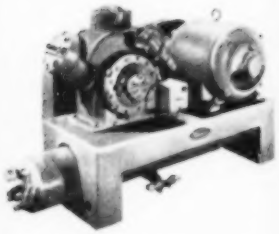

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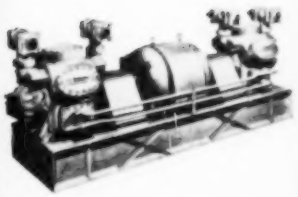

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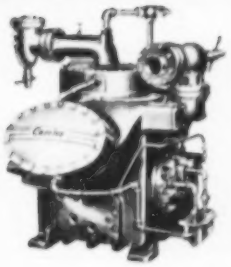

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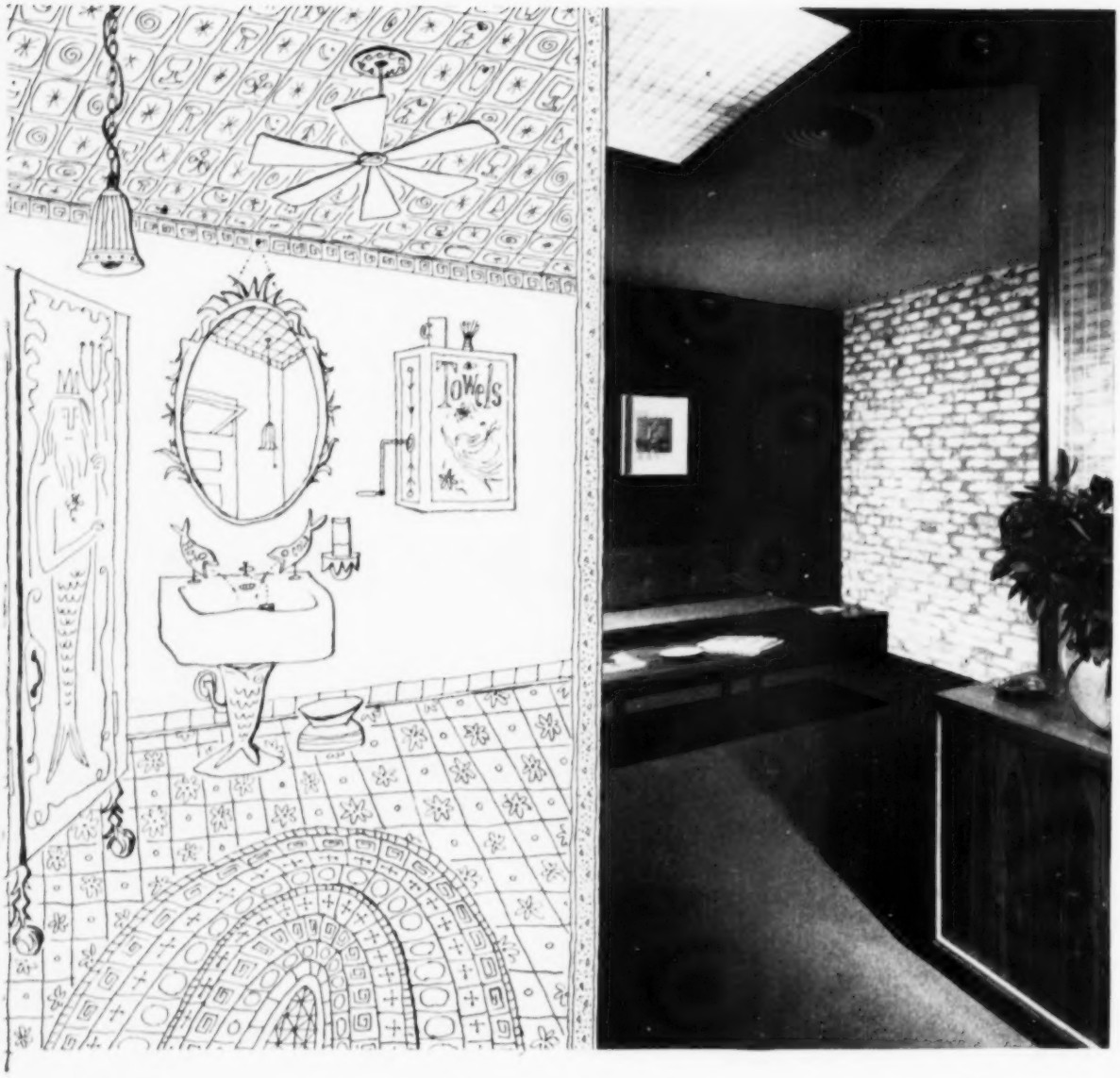

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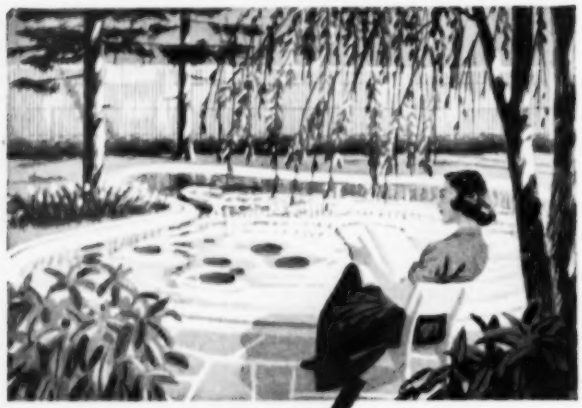

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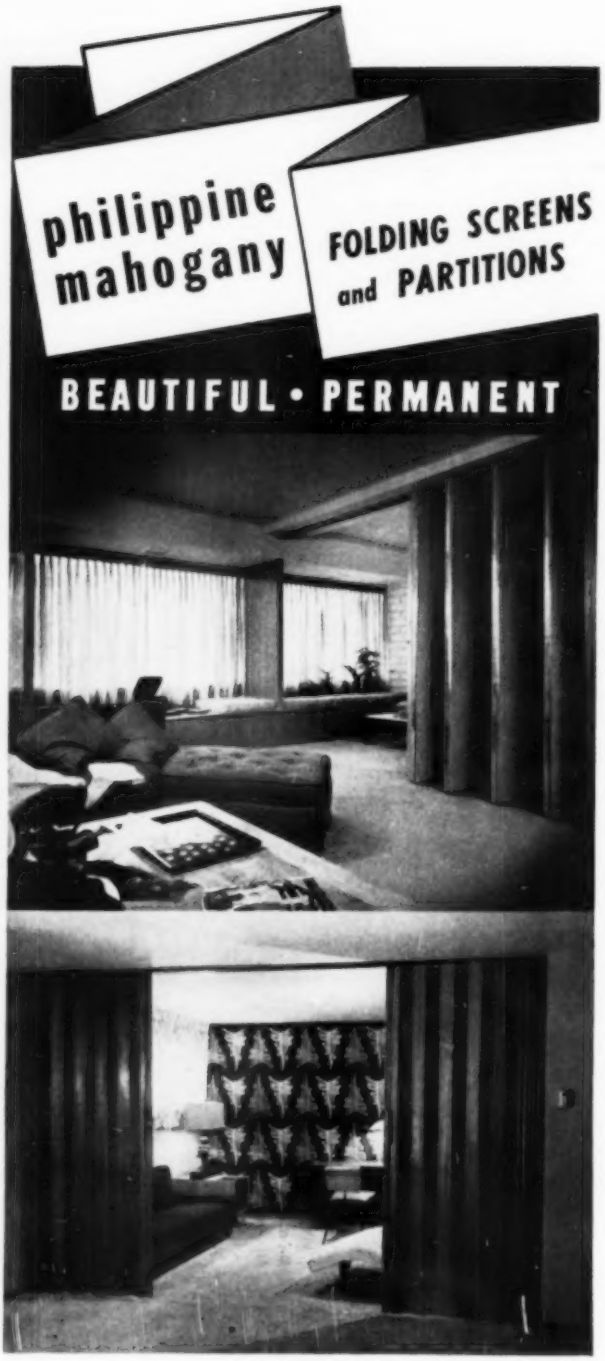

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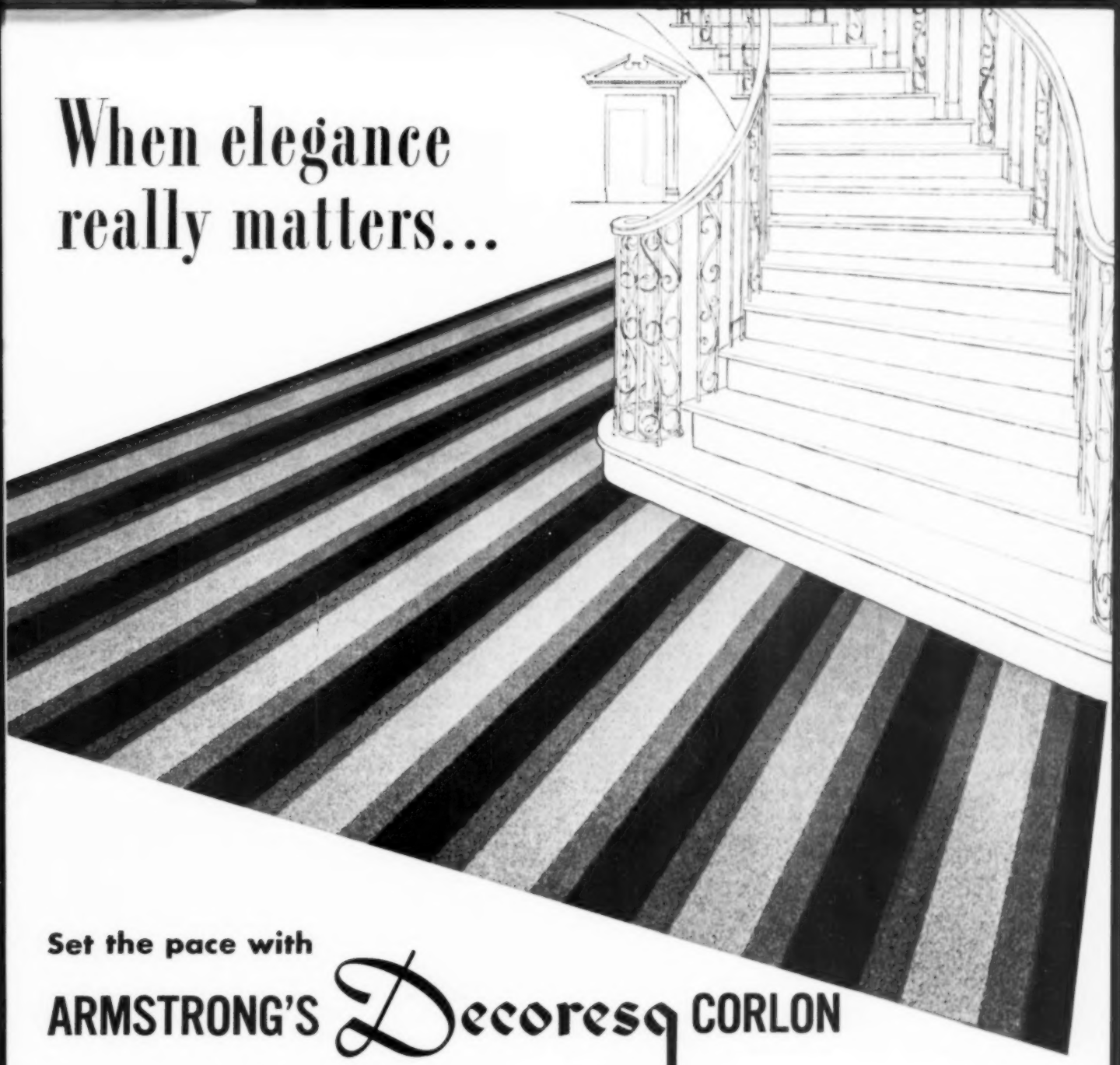

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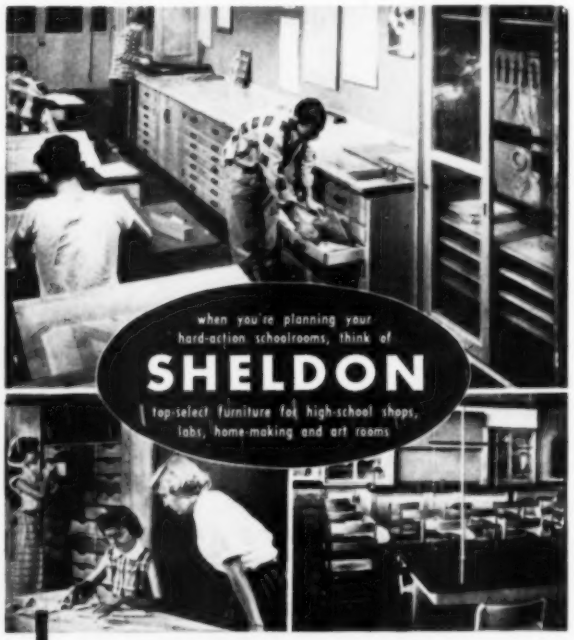
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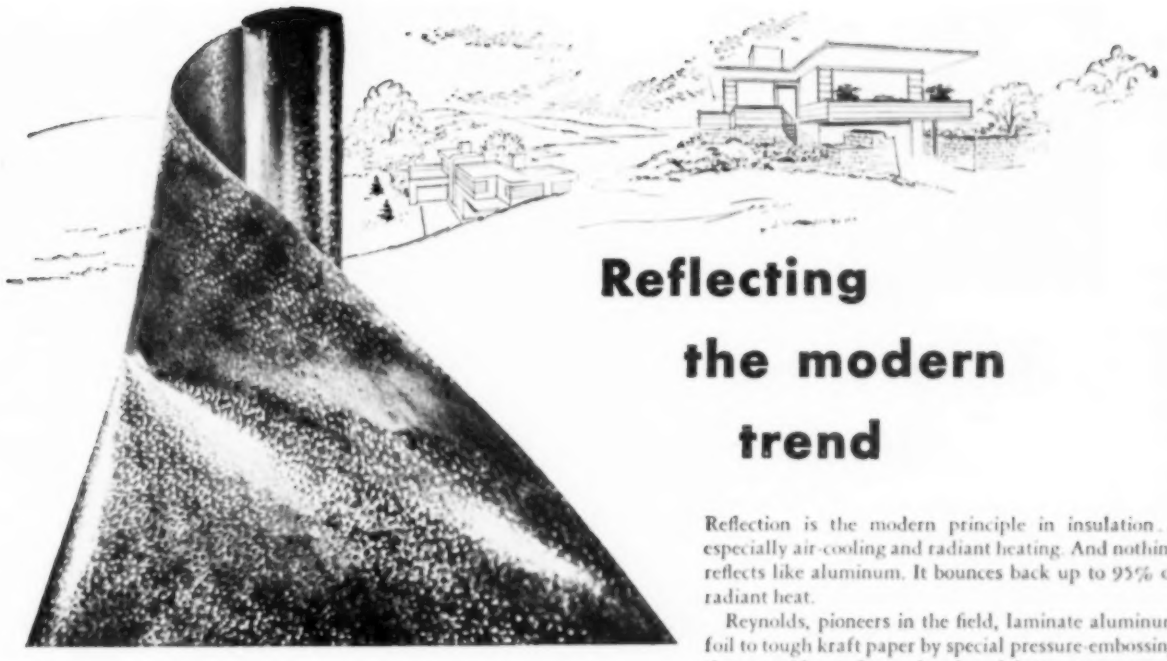

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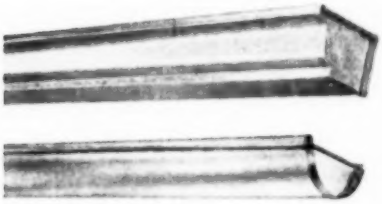

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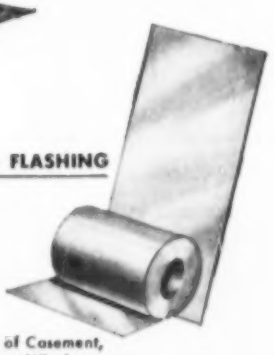

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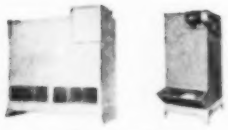

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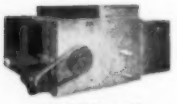

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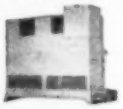

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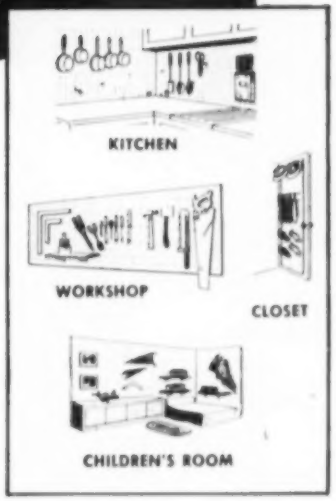

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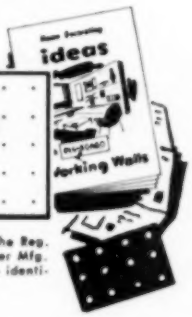

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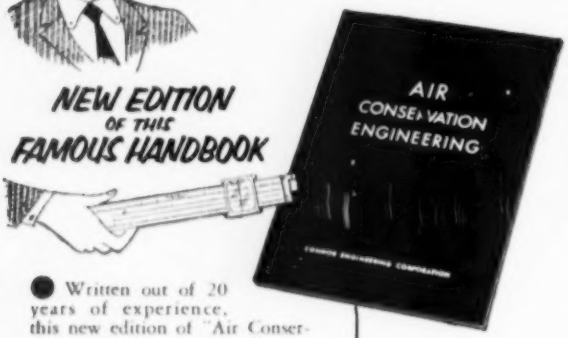

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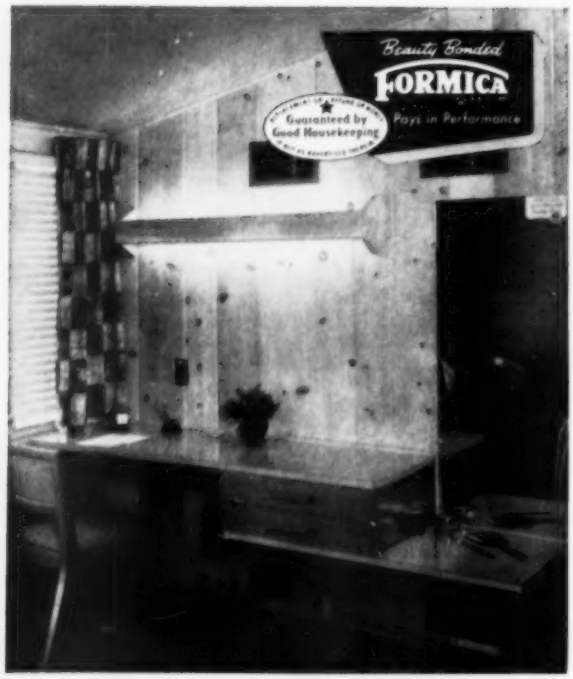

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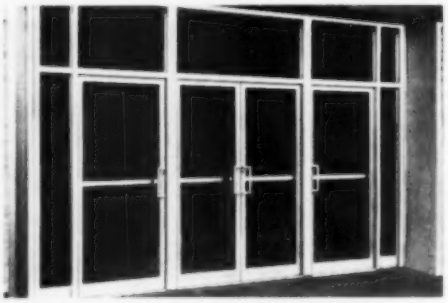

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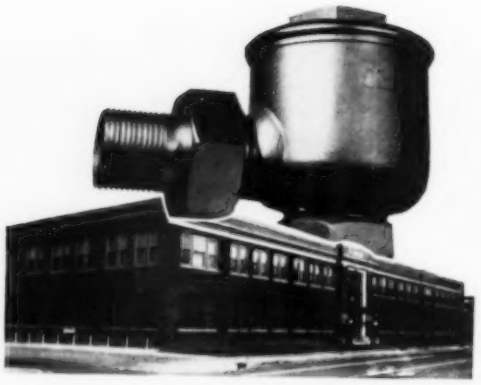

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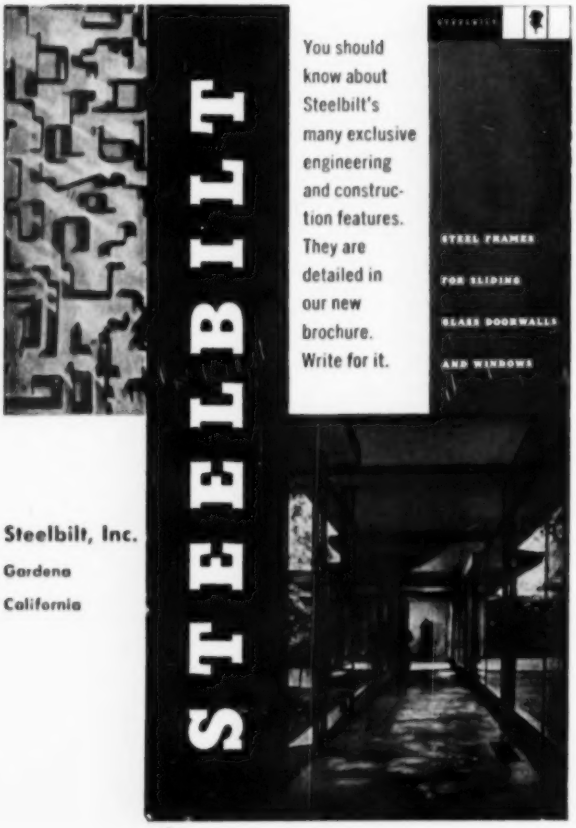
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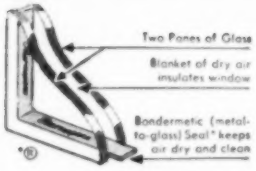

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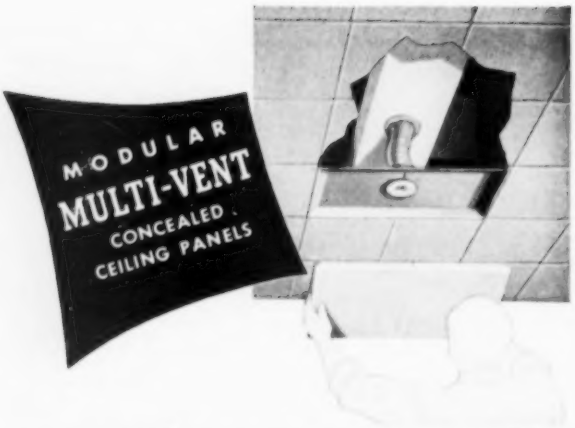

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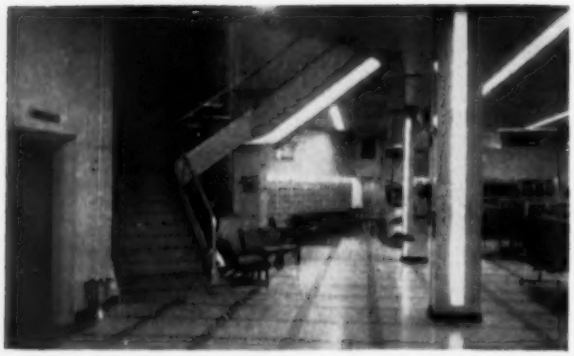

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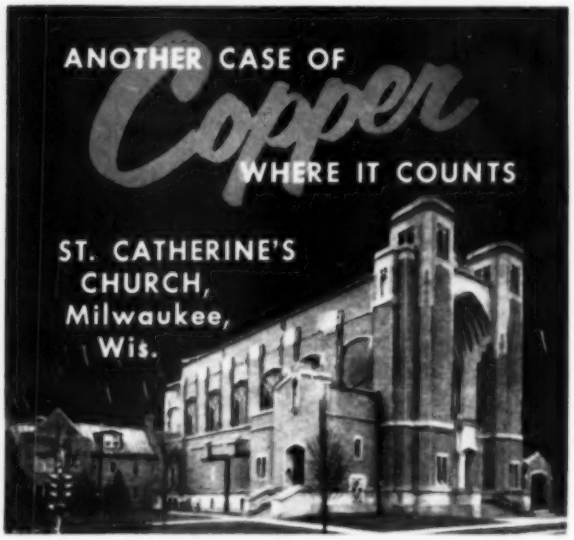

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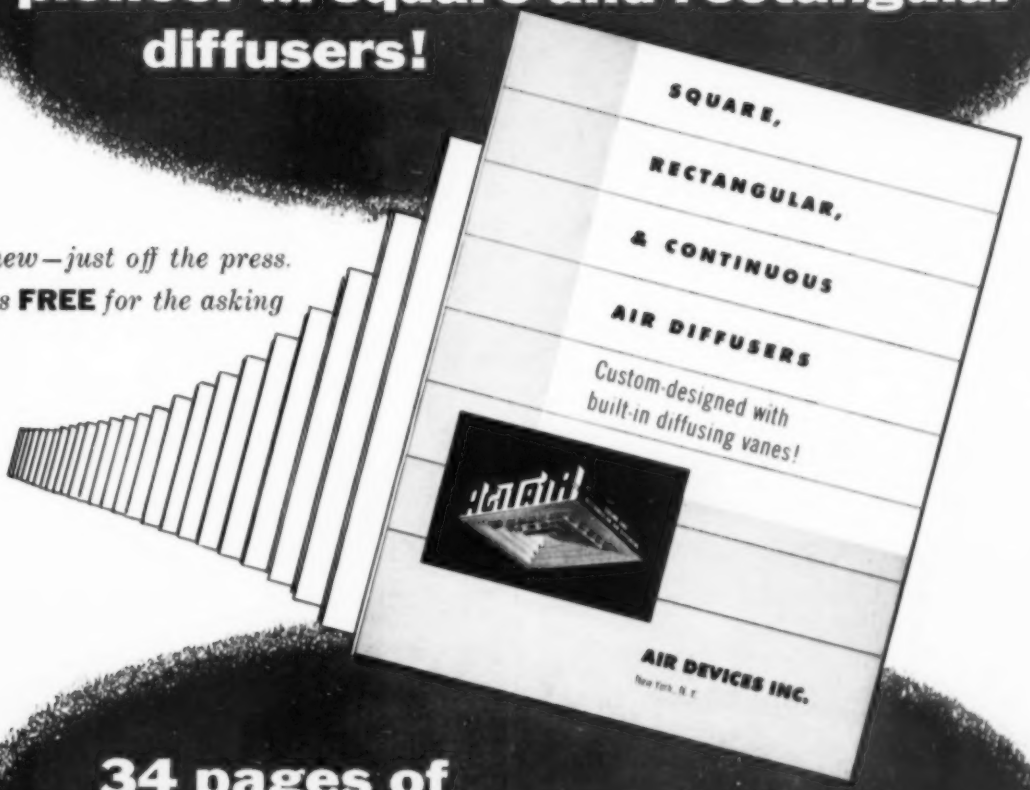

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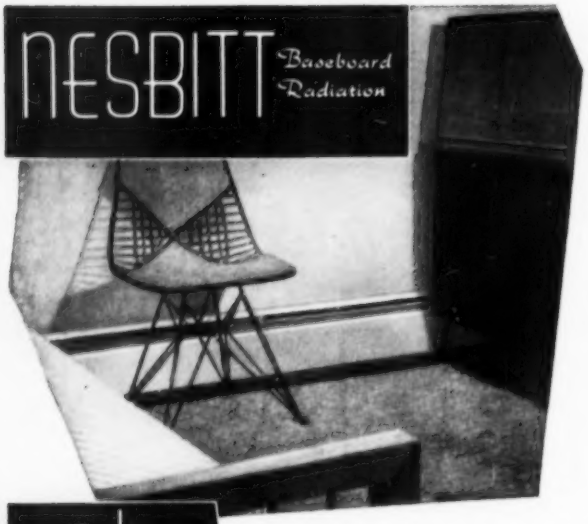

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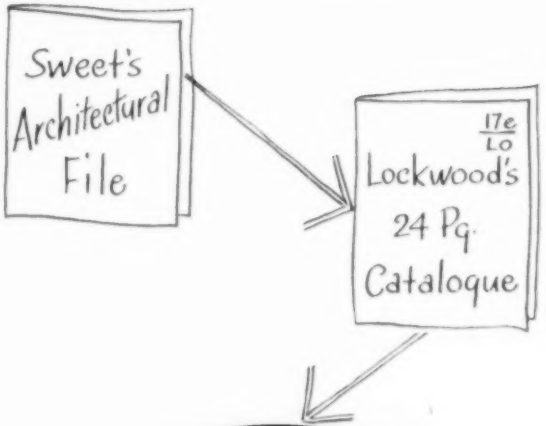

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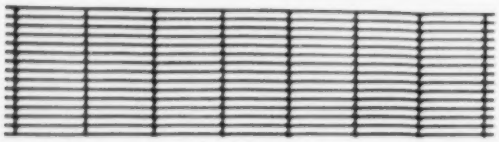

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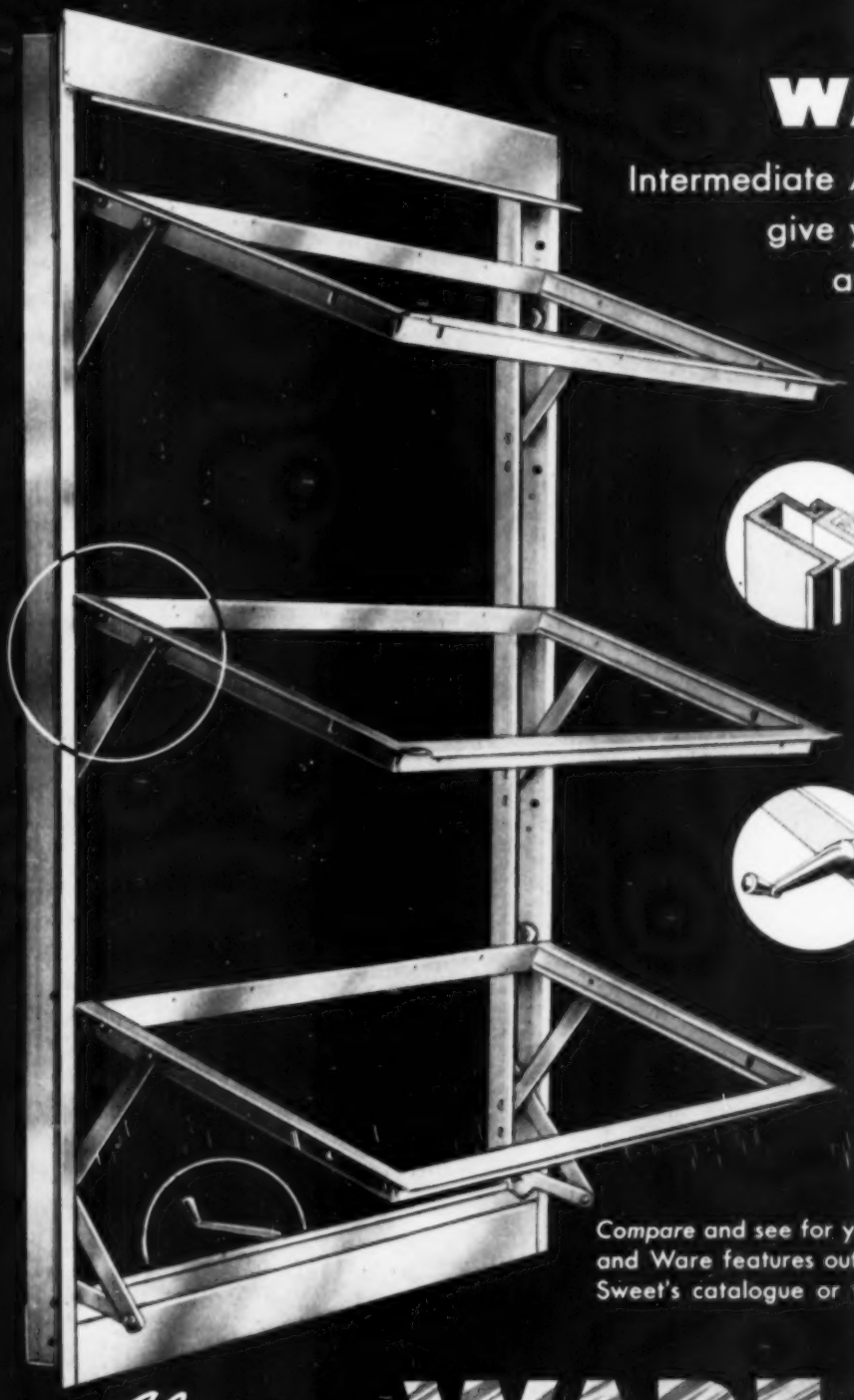

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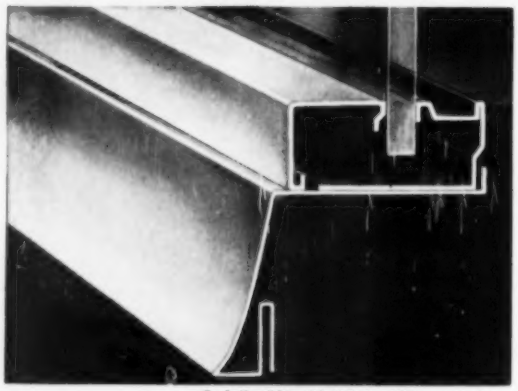

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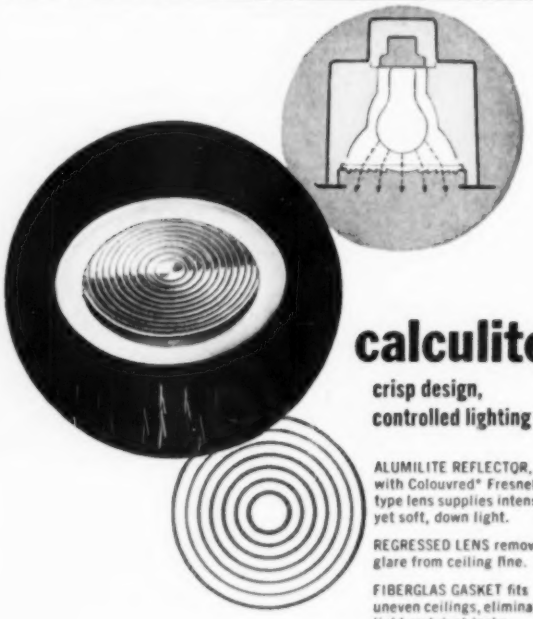

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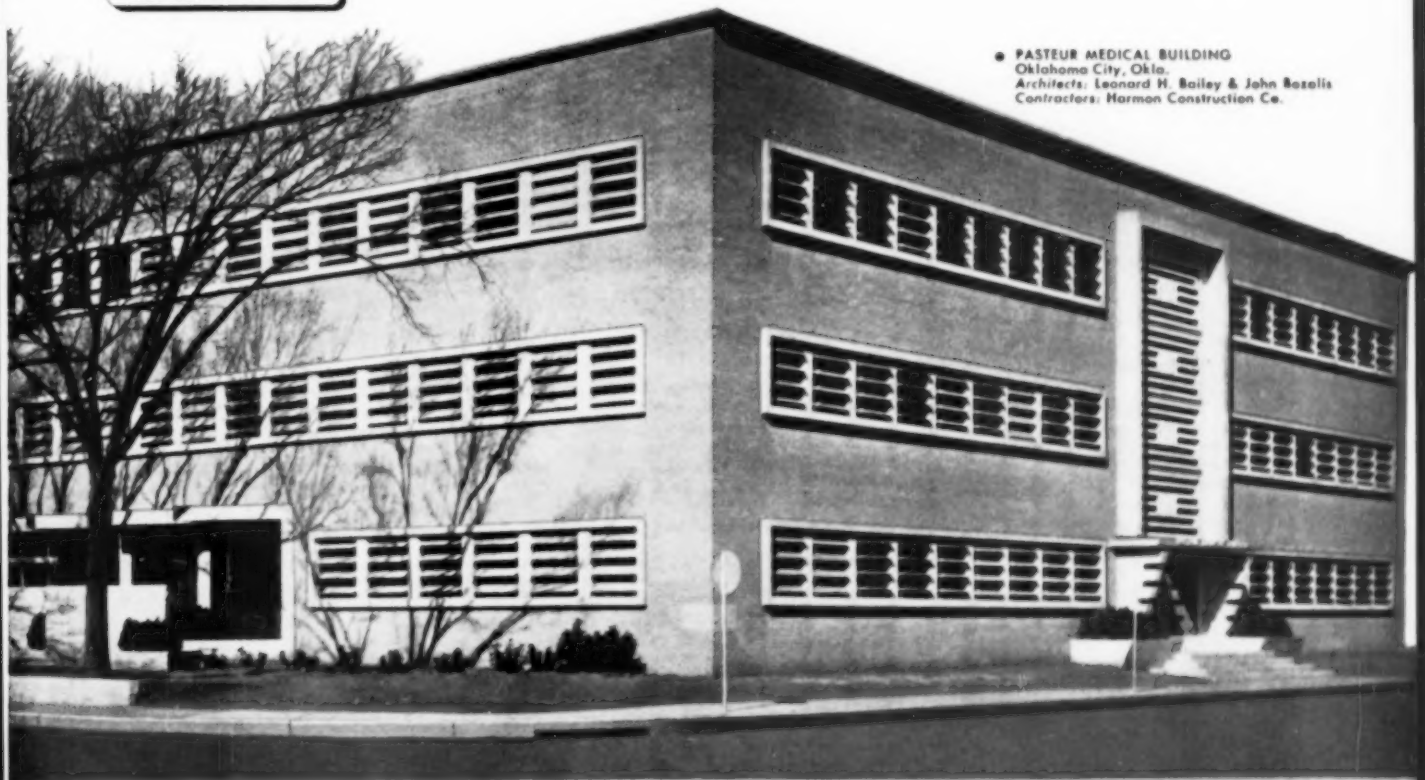

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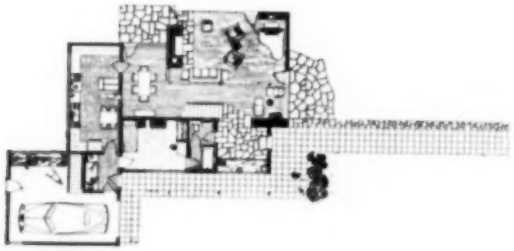

Notice this topic-by-topic chapter arrangement—

1 **EXPLANATION**
The architect-designed house as distinct from all others

2 **SILHOUETTES**
The people who live in houses and what they want of them

3 **FAMILIES**
People together form a family which in turn makes still other demands on the house

4 **LIVABILITY**
How people's and families' demands get translated into a scheme for the house

5 **ACTIVITIES**
How what we do in houses should affect their plan, furniture, arrangement and equipment

6 **RELATIONS**
What kind of people are architects and clients, and how do they get along together?

7 **PROCESS**
How the architect and client react to the crises of the building period

8 **STYLE**
A dim view of both Modernism and Traditionalism, and a plea for a simple contemporaneousness

9 **ENVIRONMENT**
How the surroundings of a house should affect its style

10 **SITE**
How the site of the house should affect its plan and concept

11 **STRUCTURE**
The structure of the house is like the human body, and should be conceived of as such

12 **EXPRESSION**
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P.S.

Perhaps it's time to catch up on a little correspondence, of too personal a nature to go on our VIEWS page but of possible interest to some of you.

I've been hearing from architects and engineers who were in the paths of the tornadoes which swept over the country in a spotty fashion last summer. We tend to think of these natural catastrophes in terms of the need for rebuilding and redesigning—perhaps new commissions, which the local people would rather not have had—and we forget the *personal* tragedies involved among our fellow professionals. Gösta Truedsson, engineer of Holden, Massachusetts, reports, "I was completely wiped out in the June tornado. It took my house and business, and scattered my records over the landscape for a distance of 30 miles. It destroyed a $10,000 technical library, catalogues, various scientific instruments, thousands of plans, and research projects on bomb-resistant construction, prestressed concrete, and so on."

I should think that Truedsson's next research might be on tornado-resistant building methods. He adds, however, "I made many interesting observations on construction, after the tornado, but I do not have the time to record them for the benefit of the profession, as I am working under great handicaps to get back in practice again." Let's hope he succeeds—and soon.

•

A letter comes from Denver, enclosing some clippings from *The Denver Post*, which indicate there is quite a battle going on there about school design. The younger architects in town are complaining about the present program in two respects—they say that it allows no imagination in design, and commissions are restricted to a few well-established firms. The *Post* quotes several people as follows:

"The school board does not believe in architects," said Victor Hornbein. "There is a state law requiring that they hire one. But what the board really wants is an amanuensis . . . to me, the typical Denver classroom is an unhappy cell for 30 active, healthy, children."

"The most important thing to the school board seems to be that it should construct buildings to last forever," Eugene Sternberg said. "To an architect, the most important thing is imagination."

"The school board is autocratic in many ways," Norton Polvinick declared. "They're not taking advantage of the services an architect is trained to give. When he acts as a mere draftsman, they're losing. . . . We're 20 years behind the California school building program. There is little reason why a school should be built to last for 100 years when 25 years from now it may be obsolete."

"I had rather hoped they would offer me a school in the new program so that I could turn it down," said one young arhcitect who designed a school in the last program.

William Muchow, who has designed several suburban schools, said, "The school board has set up such strong restrictions that even the architect who might want to get something imaginative into the design couldn't. But if the schools took too many chances it would reflect directly on the board. . . . I can see the school board point strongly. They should not take a chance, perhaps, with the younger architects."

This last point of view would surely keep out *any* new people, forever. Not all areas are so conservative. A South Carolina architect reports, "Everyone is waiting for a $72 millions bond issue to be voted. Of this, $50 millions is for schools which will be more or less divided among the lesser architects, and the other $22 millions will be given to the Big Shots."

•

There is a letter from an architect who has learned that if you have clients, you'd better understand them pretty thoroughly. This man had a commission to design a church structure for a congregation of Seventh Day Adventists. There developed a serious foundation problem, not discovered until excavation was well along. To explain the reasons for the trouble, the architect asked a geologist friend of his to attend a meeting of the building committee and give a little dissertation on the prehistoric earth movements which might have caused the faults discovered. His clients became obviously disturbed, to an extent greater than the extras involved might explain. Suddenly my friend realized that a basis of the faith of this group is a conviction that the world as we know it does not go back that far in time; he had made a bad error in choosing his protagonist. This is a side to architectural practice not covered, I am afraid, by any of the departments or columns in P/A, so I thought I'd make a point of it here.

•

Another letter is a justified rebuke, brought about by this column's occasional interest in the young man who has trouble getting his registration and feels that he is being unfairly set upon by an unqualified examining board. My correspondent writes:

"Could we one day soon see in your publication a kind word for the hard-working young architect who gets his training and experience, faces his registration board, takes his license, and goes to work? I am sick to death of reading about the self-appointed geniuses with their constant gripes that they have flunked *design*." After a few more digs, this critic adds modestly, "Sorry as the dickens I can't sign this . . . I might add that the best thing I can do in an architect's office is polish the furniture and read the magazines."

We have a stern rule that unsigned letters can*not* be published on our VIEWS page, so I am running this one here, so that Anonymous can see in print his own kind words for the hundreds who *do* pass the exams.

•

A communication from Texas encloses a copy of a publication called, for reasons which remain obscure to me, *A Paige of Texas*, with an article blue-penciled by my local correspondent as "Neatest Trick of the Week." The story in question describes the proposed Center Medical Building in Houston (Golemon & Rolfe and Skidmore, Owings & Merrill, architects) and speaks of the modular structural design used. It goes on to say:

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•

So ends this month's miscellany, on a note of exaggerated optimism. It's nice to be happy and look on the bright side of things for a change. Next month there'll probably be something to grouse about again.

Thomas H. Creighton

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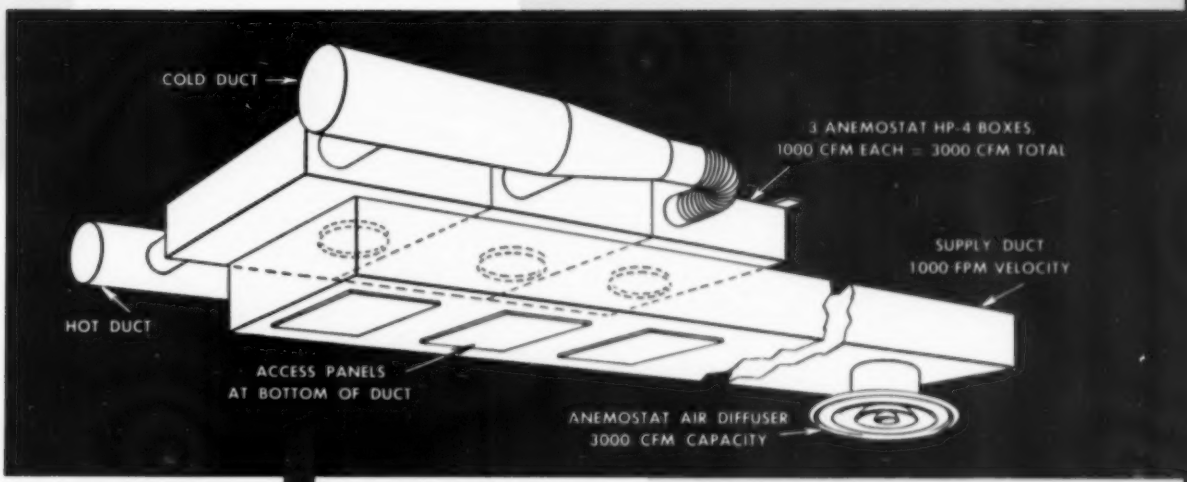

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